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THE

PHILADELPHIA

PHOTOGRAPHER.

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PHOTOGRAPHIC EMBELLISHMENTS.

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| <i>January.</i> Photo-Relief Print. By WALTER B. WOODBURY, London, England. | <i>July.</i> "Shadow" Portrait. By W. J. BAKER, Buffalo, New York. |
| <i>February.</i> "Blowing Bubbles." Prize Picture. By M. M. GRISWOLD, Columbus, Ohio. | <i>August.</i> Exhibition of the National Photographic Association. By T. T. SWEENEY, Cleveland, Ohio. |
| <i>March.</i> Illustrative of Retouching the Negative. By J. F. RYDER, Cleveland, Ohio. | <i>September.</i> Cabinet Portrait. By ADAM SALOMON, Paris, France. |
| <i>April.</i> View in Central Park, New York. By H. J. NEWTON, New York. | <i>October.</i> "Gems of German Life." By LÖESCHER & PETSCH, Berlin. |
| <i>May.</i> Cabinet Portrait. By LÖESCHER & PETSCH, Berlin. | <i>November.</i> Cabinet Portrait. By NOTMAN & FRAZER, Toronto, Canada. |
| <i>June.</i> "Rembrandt" Portrait. By WILLIAM KURTZ, New York. | <i>December.</i> "The Skating Carnival." By WILLIAM NOTMAN, Montreal. |

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THE

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Entered, according to Act of Congress, in the year 1869,
By BENERMAN & WILSON,

In the Clerk's office of the District Court of the United States for the Eastern District of Pennsylvania.

The Annual Exhibition of the National Photographic Association.

THE Annual Exhibition of the National Photographic Association of the United States, will be held in Cleveland, Ohio, beginning the first Tuesday in June, A.D. 1870.

This early announcement is made to enable exhibitors from foreign countries to make shipment of their specimens in good time, which should be not later than April 1st to insure their arrival in season. Shipments may be made as late as the 20th of April, but there is a risk of their arriving too late.

Full particulars will be given in the next issue of this Journal, for the information of foreign exhibitors and others.

Will foreign Photographic Journals please copy this notice.

Those desiring special information will please address the Permanent Secretary as follows:

EDWARD L. WILSON,
Permanent Secretary
National Photographic Association,
Philadelphia, Pa., U. S. A.

THE NEW YEAR.

WE heartily wish a Happy New Year for all of our readers. Since our last number was issued, and the words "Subscription

Expired" were stamped upon the wrappers of the most of the copies, letters full of words of good cheer have been streaming in upon us daily, accompanied by *substantial* tokens of their earnestness from all directions. This whole number, printed in fine type, would not begin to hold them. "*My subscription never expires,*" writes one; "I have been saved so much needless expense by it that I *cannot afford* to do without it," says another; "It has been my only teacher, and I constantly improve under its instructions," is the voice of another; "I have been pecuniarily successful, and I owe at *least one-half* to the *Philadelphia Photographer*," cheerily writes another, and such are the letters from the mass of those who are now renewing their subscriptions.

Now what shall we do in return for all this? We do not think it a good plan always to reveal what you are going to do, but this much we promise: so long as it is in our hands, *The Philadelphia Photographer shall not go backwards*. We know its shortcomings, and we will try to improve it all in our power. We have several fine pictures in hand and under way, as announced in our prospectus, which we think will be well worth \$5 without any reading matter, but the latter shall also be kept up to the times, and you shall never be kept in the dark as to any new improvement, or fail to be warned if any attempt is

made to take advantage of and deceive you.

We have effected new postal arrangements by which we think we can prevent the frequent loss of our numbers in the mail hereafter. Our subscription list will be arranged in States, and the numbers for each State and Territory tied up separately and thus mailed. In that way the California package, for instance, will go direct to San Francisco for distribution, instead of the numbers being jolted and rubbed against each other separately as heretofore, thus running the risk of being pillaged by route agents, or of having the wrappers torn off. This plan will insure certain and safe delivery we think.

One subject more, and we have done. The large circulation our Journal has, necessarily brings an immense correspondence. Heretofore, many of our subscribers, when finding trouble in their manipulations, have naturally applied to us for the necessary information. We are glad they do, for they *should* find everything in their Journal that they want to know. We have always answered such letters privately and cheerfully, because, our issue being monthly, it is a long time for a man to wait to know how he may get rid of fog in his bath, spots in his paper, etc. Although we can and do employ help in our *business* department, this kind of work must be done by one right hand, and that our own. Although it has become very exacting and burdensome, we are still willing to answer all such letters by private note, *whenever the parties cannot wait to be answered in our next issue*. When they *can* wait, we shall, hereafter, for their good and for the good of others, answer all such communications in our editorial columns, and this shall be the rule. If you inclose a postage stamp we shall know you are in a hurry, and write you; otherwise, you will be answered as stated. Now continue to ask whenever you need information, and you shall be attended to cheerfully. Correspondence to be answered in the magazine must reach us by the 18th of the month invariably, or it will be too late.

Again, we wish you all a Happy New Year.

The Woodbury Photo-Relief Printing Process—Our Picture.

WE present our readers with a picture this month by a process which is almost entirely new to them, though not a new process. Nearly five years ago Mr. Walter Bentley Woodbury laid before the photographic societies in London some exquisite little prints possessing unusual and remarkable relief and detail, which, he declared, were mechanical prints in permanent colors; no silver, no hyposulphite, no gold, in fact, no deleterious chemical being in their composition. They were of card-size only, yet they excited the greatest consternation, for in them could be seen a great process for the future. Some little while after, the readers of the *Photographic News* were presented with a specimen print by Mr. Woodbury's process, and the details of the process given. The *British Journal* and Dr. Vogel's *Photo. Mittheilungen* have since presented their readers with cabinet-size specimens, and we have from time to time noticed the process and its progress, though not in much detail.

It has been reserved for them, however, to receive now the most beautiful specimen by the process that has been printed in large quantities on paper, and we believe that they will agree with us that it rivals silver printing and gold toning to a wondrous degree. One could scarcely hope for more perfect prints from any negative, and yet the thousands needed for our purpose can be printed by one man in less than a week, *with only one exposure of the negative!* Astounding as this may seem, we will try to make it plain by the details of the process as briefly as possible: A thin, dry sheet of bichromatized gelatine is exposed under the negative the same as in carbon or silver printing. The soluble parts are then washed away and the insoluble parts remaining form a *gelatine relief*. When dry, this "relief" is placed upon a steel plate in a hydraulic press, a sheet of lead laid upon it, and the two brought together by about four hundred tons' pressure. On removing the pressure a reverse of the "relief" will be found impressed upon the lead-plate, and from it the prints

are made. From the same "relief," with care, as many as twenty metal plates may be produced, each one being capable of printing about one thousand impressions, so that, with only one exposure of the negative, it is possible to print twenty thousand prints, all as perfect as the one now presented to you.

We have before us one of the "reliefs," several of the metal plates, and a great number of the prints of sizes up to 11 x 14 on paper and glass. In the metal intaglio or mould, the most intense parts of the photograph are represented by the deepest hollows and the half-tones by hollows proportionately less deep, *i. e.*, the deeper the hollow the darker, and *vice versa*. The mould is laid flat in a press contrived by Mr. Woodbury for the process, and upon it is poured, while warm, a sufficient quantity of a semi-transparent mixture of color and gelatine. This mixture is poured in a little pool upon the centre of the mould, the paper is laid upon it, the press brought down, and the mixture oozes outwards in all directions, fills the hollows in the moulds, and attaches itself to the paper. In a few moments the proof is removed from the mould and immersed in an alum solution, which renders it insoluble even in boiling water, and we have the finished print! Can anything be more simple and beautiful?

But the production of prints on paper is only one of the uses of the process. Prints on glass for transparencies, stereographs, and lantern-slides can be made with even greater ease. Any color may be used for the paper prints, or any shade, as the prints before us testify. They may be made on metal, china, wood, or almost any substance to which the mixture will adhere, of a mat or glazed surface. By another application bass reliefs in plaster are obtained, and, by still another, printing surfaces on copper for the regular printing press are secured. A negative may be weak, or it may be dense and harsh. Equally good prints can be obtained from them by a slight modification in making the relief. It is the most accommodating process we have ever seen. Even a broken negative can be printed from so that the resulting prints

show no signs of the fractures. Is it not wonderful?

It is well known to all of our readers that albumen prints are more or less fugitive; moreover, that to print in large quantities is almost impossible, unless many negatives be made, which adds much to the cost of production. Perhaps no one has experienced the latter defect in the silver process more than we have, as we need several thousand prints each month, and know full well and to our cost, the difficulty of obtaining them. These drawbacks to silver printing have led many for a number of years to experiment, with a view of obtaining some process by which *permanent* prints could be made in large quantities cheaply and as good as silver prints. The result has been the perfection of several very useful photo-lithographic processes, only useful, however, in certain directions, and all of them, until within two or three years, without the possibility of obtaining half-tone. The various carbon processes were also the result of the experiments alluded to, most of the experimenters working pretty much in the same direction. The Osborne photo-lithographic and the Swan carbon process, were the most perfect and practical of them all, and an example by each of them has been presented to our readers.

Mr. Woodbury, however, stepped out of the usual track and worked in an entirely different direction from his *confreres*. With what success, our readers have proof of. After years of hard labor and diligent experiment, hindered by obstacles that it seemed almost impossible ever to overcome, Mr. Woodbury has mastered a photographic printing process, which is itself master of all of its rivals, and the capabilities of which he does not yet foresee. It is undoubtedly *the printing process of the future*. At present it is only adapted (economically) to the production of large quantities, such as for the illustrations of magazines and books, for advertising and other commercial purposes, and for parties who have large lots of stereoscopic negatives in continual use. There is a wide field for it in those directions.

The saving of the negative gives it an immense power. In a future issue we shall

give further information concerning this wonderful discovery, and we are promised that those who visit the great exhibition that is to be at Cleveland in next June shall see it worked in all its details.

The negative from which these prints were made was made by Mr. Woodbury in Italy. Our pictures were printed by the Woodbury Photo-Relief Company, in London.

THE CHLORO-BROMIDE PROCESS.

BY M. CAREY LEA.

I PROPOSE to give the above name to a new form of the collodio-bromide process, which I have just finished working out.

Some years ago I made and published some experiments upon development on chloride of silver on paper. The chloride paper was exposed under a negative, in some cases for a very short time; in others, until a visible image appeared. It was found that, in the latter case, where the exposure was continued till the whole image was visible, and then finished by development, a better result was got than when iodo-bromide of silver was used, and I recommended this mode of development for regular use in development printing. But the most remarkable result was got where the exposure was very short. In an experiment in which a single magnesium spiral was burned in front of the negative, nothing at all was visible when the paper was removed from the frame. According to received ideas respecting the comparative insensibility of chloride of silver, development of this under-exposed invisible image ought to have produced a very harsh, black and white picture, instead of which a thin picture, crowded with detail, was obtained. I remember mentioning that some extremely faint detail, which I had noticed in the negative, with the thought in my mind that that portion would never show in any print, was distinctly visible in this development. At the same time, the image was so thin, flat, and destitute of vigor as to be wholly worthless as a positive, and was only of interest in connection with the curious properties so unexpectedly disclosed.

The publication of these experiments,

showing such unthought of sensitiveness in chloride of silver, naturally led others to experiment in the direction of plates for the camera. Nothing, however, of interest was elicited, nor was any step made towards the discovery of the function of chloride of silver in connection with collodion negatives.

This function I believe I have now succeeded in making out. The true use of chloride of silver is to be found in connection with bromide in the collodio-bromide process. And, if I do not deceive myself, it will be found that this application of chloride of silver will be equal in importance, and not dissimilar in character, to the introduction of bromide of silver into the regular wet process.

For, although excellent work was done with the iodide of silver process, yet the introduction of bromide gave a great certainty, ease, and freedom from fog. So, although capital work can be done with the collodio-bromide process, nevertheless the introduction of chloride enables us with ease and certainty to get a bright, vigorous image, coming up with facility to any degree of intensity desired, supporting with great ease a re-development with nitrate of silver and acid pyro if desired, in consequence of inadvertent under-exposure and without any need of previous fixing. Indeed, the addition of even a very small quantity of chloride so effectually destroys all tendency to fog, that the use of a soluble bromide in the development becomes superfluous, even where the sensitive collodion has been prepared with a large relative excess of nitrate of silver. A liberal excess of nitrate of silver in the collodion tends to exalt the sensibility, but obliges great care to be taken in the development and the use of plenty of bromide of potassium. But, by the introduction of chloride, all this tendency to fog disappears at once, and the development goes forward as brightly and cleanly as can be desired.

The proportion of chloride necessary is singularly small. A grain to the ounce of collodion seems to be quite sufficient in most cases. In some it may be raised to two grains, in others lowered to half a grain. It is wonderful to see how complete a change in the character of the plate

the addition of so small a quantity as half a grain will make. The quantity to be added will always depend upon the character of the collodion in use and the result desired. The more chloride added, the greater will be the vigor of the resulting negative.

The chloride which I have selected for use is the *chloride of copper*.* Of course, others may be used, such as the alkaline chlorides, chloride of cadmium, of calcium, etc., etc. But the chloride of copper leaves nothing to be desired. It is easily obtained pure; it is very soluble in alcohol and works in all respects satisfactorily. So also, doubtless, will other metallic chlorides and chloride of lithium. Other alkaline chlorides than lithium I consider objectionable, because of their sparing solubility in collodion. A great deal of mischief results from the use of sparingly soluble salts in collodion, and this has been especially the case with bromide of ammonium. I cannot stop now to enlarge on this, but shall simply remark that the transparent specks that have greatly annoyed some who have tried the collodio-bromide process, have resulted from this cause. More than two grains of bromide of ammonium cannot be usefully dissolved in any collodion as free from water as collodion should be. A larger quantity than this may, indeed, be got into solution by the use of hot alcohol. But, when the collodion is so fully charged, slight depressions of temperature will cause it to crystallize out into invisible particles that remain suspended in the liquid, and cause insensitive specks in the negative.

So reject all the alkaline chlorides which are still less soluble in alcohol than the bromides. Chloride of lithium is, of course, an exception, but it is scarce and expensive, and, as said before, chloride of copper leaves nothing to be desired. I use it in solution in alcohol, 16 grains to the ounce, so that each half drachm contains one grain. It may, of course, be dissolved in the collodion together with the bromides, but at first, at least, the photographer will find it more convenient to keep it separate, and to add it at the time of sensitizing. In this way he can regulate the quantity according to the results obtained.

The following are the formulæ which I recommend for use: I have always preferred to use a collodion richer in bromides than many others who use the collodio-bromide process. If found too thick, it is easy to thin it with ether to any desired thickness, but I have always found that it was best to apply the collodio-bromide as little thin as possible—a rich, creamy film always gives the softest pictures and with the most detail in the shadows. I therefore make my collodion:

Alcohol and Ether, equal parts,	1 ounce.
Bromide of Cadmium, . . .	10 grains.
Bromide of Ammonium, . . .	2 “
Pyroxyline,	6 “

Everything will depend upon the equality of the pyroxyline, which must be intense and powdery. The best I have had has been supplied me by Mr. Pary of this city, though I have had very good intense “Helion” from Mr. Cooper, of New York. A skinny collodion is very objectionable. This last quality is, of course, easily judged of by the common method of drawing the finger through the film just as it sets. The finger should plough straight through without tearing or making a jagged track. As to the *intensity* which is essential if gum is to be the preservative (and it is by far the best) I know no better way than to procure several specimens, make them up, and set them aside for a month; then give them an actual trial and adopt that which gives the best result, laying in a supply to last for a long time.

As respects the keeping of collodion, my own experience has been, that it gains in sensitiveness for a long time by keeping. But some specimens blister worse after keeping for six or eight months than after one month. The trouble from blisters, however, when they occur, is more apparent than real. Gum, however, which gives the most sensitive plates of all preservatives that I have tried, tends to blisters. But if the plates are well washed, the blisters dry up without leaving stains; good washing after fixing is, however, essential.

Having then prepared a solution of chloride of copper, 16 grains to the ounce of alcohol, I add to each ounce of collodion half a

* I obtain mine of Bullock & Crenshaw, Phila.

drachm of the chloride solution, and sensitize it with 20 grains of finely-powdered nitrate of silver.

Now, as to the sensitizing, great differences of opinion have been expressed as to the time for which the mixture should wait after the silver is added, in order that it may reach its most sensitive stage. In my own experience, I have never found the mixture in its best condition until fully forty-eight hours have expired after the addition of the silver, and I think that more persons have probably failed in consequence of using the mixture too soon, than from all other causes put together. A mixture after forty-eight hours will give plates that will be fully exposed with an amount of exposure which, had it been used at the end of twenty-four hours, would have given a half-exposed, chalky, black and white negative.

Not only this, but I have long recognized and acted upon the fact that the mixture acts much better if it has been treated in the following way: suppose we want 4 ounces of sensitive mixture, we take a little less than this, say 3 ounces, and sensitize it, shake it frequently, and, at the end of a day, add the remaining ounce, thus bringing the bromide into excess. This stands, with occasional shaking, for half a day. Then the silver corresponding to the last addition of collodion is added, well shaken up at intervals, and, at the end of half a day (making in all, the two days), it is in its best condition—although this proceeding is not absolutely necessary, and, although very good results are got by simply adding the quantity needful of nitrate of silver to the whole of the collodion intended to be used, yet, nevertheless, there is a decided advantage in proceeding as above. I have used this method with unimportant variations for years, and have described in my Manual, and, I think, in your papers.

After using what I want, I add, according to the custom usual with those who work the collodio-bromide process, some of the bromized collodion to the residue, by which admixture it keeps well and is again ready for use by adding nitrate of silver corresponding to the quantity of collodion last introduced into it. It is not well, however, to do this

too often. But, after thus treating the residues for three or four times, it is better to use it all up and start afresh. To explain why, would require too much room at present.

I next come to the preservative. I greatly prefer preservatives in which gum forms an essential portion. Nothing so far that I have experimented with (and I have tried a vast number of substances), has given the same sensitiveness as gum; at the same time, if not properly managed, there is a tendency to thinness of the image and to fogging. As the introduction of the chloride is very favorable to the prevention of fogging, it is with gum that it will be found to be most useful. Together with gum, I use sugar and litmus. The sugar seems to be chiefly useful for keeping the film in a porous condition. It dissolves out rapidly when the plate is developed, and leaves the film in a spongy condition favorable to the rapid and equal penetration of the developer. The litmus I at first tried for the purpose of darkening the film and diminishing its penetrability to light, but it proved to act most favorably upon the sensibility of the film and the vigor of the image. It may be used either blue, or it may be reddened by acetic acid. If used blue it is best to lightly wash the plate first, because silver gives a precipitate with blue litmus. With litmus reddened by acetic acid, the tendency to precipitate is greatly diminished, and a previous washing becomes superfluous and even injurious. On the whole, I prefer the blue, or the gum and sugar may be used without the litmus. I give all three methods—the first involves a very little more trouble than the other two, but it gives a more sensitive plate, and I therefore use it myself and recommend it in preference. All, however, give good results.

No. 1.

Take a quarter of a pound of good dark litmus (the French is better than the German) cover it with boiling water and set in a warm place for some hours or a day. Pour off the liquid into a filter, add more water; after pouring this off, throw also the grounds upon the filter, and wash through with hot

water until the filtrate amounts to a quart. Add a little carbolic acid ($\frac{1}{2}$ drachm) and the liquid will keep indefinitely. I have used it six and eight months old.

The bath is made by dissolving

Best Gum Arabic, . . .	20 grains.
Loaf Sugar, . . .	12 "
Water, . . .	1 ounce.

The litmus solution is added to this in the proportion of an ounce to each 4 ounces of the gum-water.

After the plate is collodionized, allow it to get barely set and plunge it into a pan of water, where it may lie either a long or a short time, except that all greasiness must be gone. It is then plunged into the above bath, left there six, eight, or ten minutes (fifteen will do no harm), and is then dried.

No. 2

Differs from the above in this, only that a little acetic acid is added. I use what is called No. 8, corresponding, I believe, to Beaufry's acid, and put in 25 minims to each ounce of litmus solution, say a drachm to each $2\frac{1}{4}$ ounces, or thereabouts. Into this the plate is plunged as soon as the collodion is set. It is left in till the greasy marks are completely gone, allowing rather a little more time than less, and is then ready to dry.

No. 3

Differs only from the foregoing in the entire omission of the litmus, and consequently of the acetic acid. Plates are immersed without previous washing, as in No. 2.

Better take the little additional trouble required with the first of these, and so secure the best results.

The development is effected by plunging the plate into a bath, which for $6\frac{1}{2} \times 8\frac{1}{2}$ size, is made as follows: Water, 6 ounces, 60-grain solution of pyrogallie acid $\frac{1}{2}$ drachm, 80-grain solution of carbonate of ammonia, $\frac{1}{2}$ drachm. It is best to add a third only of the carbonate at first, and the rest after the detail is out. In my own experience I find bromide of potassium unnecessary, except there be indications of over-exposure by the too rapid flashing up of the image. Fix in very weak hyposulphite.

It is likely the advantages of the chloride

will be found to vary with different specimens of collodion, and different preservatives. The great gain which I find in its use is that it admits of our raising the sensitiveness of the collodio-bromide mixture to the highest degree, by protecting us from the dangers which accompany that mode of operating. Some have feared these so much as to recommend using either just enough nitrate of silver to correspond with the bromides, or even to use less, and leave the bromides in excess. In this way a clean plate is secured indeed, even if the operation has not been very well managed, but at a great sacrifice of sensitiveness. Now the introduction of the chloride enables us to obtain perfect clearness, and at the same time retain the exalted sensitiveness which can only be obtained by having present a liberal excess of nitrate of silver.

I propose to call the new process the *Chloro-Bromide Process*, in order to mark the characteristic features which distinguish it from all the other forms in which Messrs. Sayce & Bolton's invaluable collodio-bromide has been worked.

P. S.—Those who already use the collodio-bromide process, and have the collodion already salted, can apply the chloride to it by adding to each ounce, half a drachm of 16-grain solution of chloride of copper in alcohol. This addition will necessitate an increase in the nitrate of silver, of $2\frac{1}{2}$ grains beyond what the collodion needed before. It will be found that the introduction of chloride admits of the use of a larger excess of silver, with consequent gain in sensitiveness, so that those who have hitherto worked with a very small excess of silver, can increase it.

GORDON'S GUM-GALLIC DRY PROCESS

BY PROF. J. TOWLER, M.D.

THIS process has met with much approbation from those who have tried it thoroughly. It is capable of producing clean pictures, even after the plates have been kept for some time; and the plates, too, preserve their sensitive character for a long

time. In many respects the gum-gallic dry plate is very similar to the dry tannin plate, and I scarcely can pronounce it superior if the latter is prepared with the same amount of care. In making a trial of this process, I did not care to limit myself to the exact *modus operandi* prescribed by the author of the different formulæ, but kept closely to the text of the essential points, that is, the preserver so-called.

I used my own collodion, consisting of the following ingredients:

Alcohol,	5 ounces.
Ether,	5 "
Pyroxyline, . . .	60 grains.
Iodide of Ammonium, .	40 "
Bromide of Cadmium, .	25 "

Both the ether and alcohol I digest separately over caustic lime in powder for about twenty-four hours, and then distil, in order to get the two fluids properly concentrated and free from acidity.

The plates are first steeped in nitric acid for an hour or two, then thoroughly cleaned, and, whilst wet, are coated with dilute albumen. I prefer this substratum to all others, and the plates are thus easily prepared.

The silver bath contains about 50 grains of nitrate of silver to the ounce of pure rain-water; and in this bath the plates, when coated with collodion, are kept the ordinary time of a wet plate; that is, about three or four minutes. Thus, it will be perceived, that so far the plates are prepared as common wet plates; to immerse the plates for ten or fifteen, as the author prescribes, would make the task of preparing a few dozen plates quite tedious, unless two or three baths could be made available in the preparation.

As soon as the film has attained the proper cream-color, the plate is allowed to drain, and is then placed (film side downwards), at the bottom of a wash-basin containing rain-water. Here it is left until another plate is ready to take its place, when it is removed to a similar position in a second wash-basin. After a third plate has been sensitized, the first plate is washed thoroughly under the tap and then coated with the preserver.

GORDON'S PRESERVATIVE.

No. 1.

Gum Arabic,	20 grains.
Sugar Candy,	5 "
Water,	2 drachms.

No. 2.

Gallie Acid,	3 grains.
Water,	6 drachms.

The gallie acid is dissolved by the aid of heat, and the solutions are mixed together and filtered through sponge immediately before required.

Now it is this filtering through sponge (which is absolutely necessary every time that plates are to be coated), together with the consequent production of air-bubbles, and the difficulty of removing them from the film when once there, that renders this part of the process somewhat irksome, when compared with the application of the preservative in some of the other dry processes. Nevertheless, with proper care the plates are coated to your satisfaction.

First pour over the plate (8 x 4) about a drachm of the mixed solutions, so as to cover the film completely, and then let the solution flow off into the sink. About 2 drachms more of fresh solution are poured upon the plate; and move the plate so as to keep the film continually covered with the fluid for a couple of minutes, and then rear it away in the drying-chamber to dry. The solution that has been used in the second instance may serve to coat the next plate for the first time. It must be remarked here, however, that if the free nitrate of silver has not been thoroughly removed previously by washing, the plates will be defective, and the preservative must not be used at all a second time.

Mr. Gordon backs his plates with the following solution:

Burnt Sienna, ground in	
Water,	100 grains.
Dextrine,	30 "
Glycerine,	2 minims.
Carbolic Acid a trace, to prevent fermentation.	

I did not use this backing, because I did not think it necessary when the exposure is short.

EXPOSURE.

The author recommends you to give an exposure of twice or thrice that required by the wet process. I am always a little distrustful about short exposures, and consequently I exposed the gum-gallic plate five times as long as I would have exposed a wet plate under similar circumstances; this exposure was about right, certainly not too much.

Previous to developing the picture, the plate is immersed in rain-water for a minute or so, in order to soften or remove the preservative film. I use the nitro-gelatine developer, which brings out the picture properly. I presume any of the iron developers may be used. Mr. Gordon uses the following:

No. 1.

Gelatine, . . .	64 grains.
Glacial Acetic Acid, . .	2 ounces.
Water, . . .	14 ounces.

No. 2.

Sulphate of Iron, . .	250 grains.
Water, . . .	10 ounces

For present use mix 1 part of the gelatine solution with 3 parts of the iron solution. Take 2 or 3 drachms of the mixture for each plate, and add 2 drops of the bath solution; shake the mixture and then pour it upon the plate. The picture soon begins to appear, and is intensified as much as you like by adding 2 drops more of the bath solution to the developer every now and then. It is better to wash the film before the picture is thoroughly intensified, and then to pour upon it about a drachm of fresh developer containing 3 or 4 drops of the bath solution.

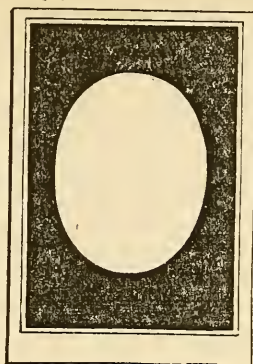
The plates are fixed in hyposulphite of soda in the usual way.

The process is certain, consequently reliable.

THE HOLYOAKE CARD MOUNT.

THE attention of our readers was called to this very neat affair by Mr. G. Wharton Simpson in his *Notes* last spring, and soon after, they were advertised as being made and for sale in this country. By their use photographers may introduce a new and pretty style of picture, and also have a

chance to raise their prices. The thing is simply this:



The upper cut on the left is a Holyoake mount of reduced size, *i. e.*, a mount with the usual border-line, inside of which all but a small oval in the centre is printed a deep black. Now mount a vignette head on it, and the effect will be similar to the lower cut, *i. e.*, the figure will be presented boldly on a pure white ground, oval in form, and a bluish-gray, neutral tint will surround it, producing a very neat and pretty effect, and causing



ing the tones of the print to acquire great richness and depth from contact with the gray ground. If deep red be used instead of black, the border will be pink instead of gray, which is equally pretty, and, as both colors are furnished, the photographer may vary the dozen to please the customer. In making vignette negatives for these cards, have a care not to make the figure too large, or else the drapery will overlap the line of the oval. The white should show *all around* the figure, a little at the bottom and more about the sides and top of the head. Thin albumen paper is best for the prints. They are well worthy of a trial.

THE PRIZE MEDALS.

BELOW we present engravings of the gold prize medals awarded, as announced in November, to the successful competitors for

the prizes offered by us for *genre*, portrait, and landscape photography.

The design is one of our own, for want of a better one. Had we thought of it in good time, we should have invited the ideas of our subscribers to assist us, but presuming the competitors were impatient to possess them, we hastened the matter. The engravings are *fac similes*, so near as can be, and of the size of the originals. The medals are made of finer gold than the United States gold coin, and cost much more to produce the dies alone, than the amount of premium offered; but we propose to repeat our offer presently, and shall then need the dies again.



The obverse design will, probably, be understood by many. It is intended to represent Photography as the greatest of the arts. Imagine an enthusiastic lover of art and nature looking forth upon the beauties of the world. He burns with desire to secure more than a remembrance of what he sees, and attempts with pen and ink to describe it. Soon he becomes benumbed with his impotence, and casts the pen and portfolio aside; the palette and pencil are then called into service, and after making a great number of unsatisfying sketches, these, too, he casts aside, when *Photography* comes to his aid, and here stand its emblems, triumphant and high, above all its competitors, which, with broken laurels, lie upon the ground. "The pen is mightier than the sword," but the camera obscura is mightier than pen or pencil.

The reverse side is understandable by the possessors of the medals, and they are the most interested. The dies were sunk by a talented artist in the government service, who made his drawings from a modern little stereographic camera and tripod, made for our own use by the American Optical Company, whose apparatus it is al-

ways a pleasure to work with, and recommend. He was constrained in his drawing somewhat, on account of the design having to be struck in metal, and it will not at first sight be considered as artistic as it should be.

Our engraver has done the best he could, in getting so much in so small a space. The engravings are not half so beautiful as the medals, and we hope our earnest workers will all try and secure one of the medals when we make our next offer, which will probably be in our next issue.

Owing to certain circumstances, Mr. Griswold's is the only one of the competing pictures that will appear as "Our Picture." It will accompany our February issue, and is being printed in the best style of the art.

Full sets of the prize prints may now be had, or sets of the different classes, as announced heretofore. They are very instructive when studied with the remarks of the judges, and some of them are very pretty.

NEW PATENTS.

Mr. Egbert Guy Fowx, Baltimore, Md., has secured a patent from whose specifications we extract the following:

The object of my invention relates to the production, by the use of *two* or more negatives, of a sharp, soft, and natural photographic print, in lights and shadows, with all the sharpness obtained by the original process of printing, with or from a single negative.

To enable others skilled in the art, to make and use my invention, I will proceed to describe its construction and operation.

I produce two or more *fac simile* negatives of the same object, which negatives are placed in contact with each other, in such a manner as to bring the lights and shades of each negative directly opposite. They are then exposed, with the prepared paper for printing in contact with the negative, to the sun's rays, and printed in the usual manner, which process is also applicable to solar prints.

By this process, a photographic print is produced, which is superior to any other production, and is applicable to photography in all its branches.

The lights and shadows are so softly toned

and blended by this process, that they produce the most pleasing natural and life-like effects. Having thus described my invention, what I claim, and desire to secure by letters patent is,

The combination of *two or more* negatives, for the purpose of producing photographic prints, etc.

We have received a number of very beautiful pictures made by Mr. Fowx's method. We have heretofore expressed our dislike for mezzotint effects, but these have none of the objections we made to those made by other processes. There is none of that inkiness of the blacks or fuzziness that was so objectionable. The effect is soft and beautiful, and none of the merits of the picture are destroyed by the practice of the new method.

The great hindrance to its use seemed to be the difficulty photographers would have in working it, for it is no easy matter to make two negatives precisely alike, or to get them exactly superimposed. Mr. Fowx, however, has associated with him Mr. G. O. Brown, who proposes soon to travel through the South to teach the method fully to all who wish it. He does not go armed with boastful claims that you are an "infringer" if you produce similar results by any other means. He proposes to show how it can be done by *his* method, which he believes to be the best and easily worked when understood. Mr. Brown has acted as our agent in Baltimore and Washington for a number of years, and is entirely trustworthy. He will continue to solicit subscriptions for us, and claims that he will not apply to photographers as a process seller, but as a *teacher* of a process that he thinks will swell your revenue if you study it. We know very little of it, but Mr. Brown we have known personally for a number of years as an accomplished operator and worthy gentleman.

FERROTYPERS' ASSOCIATION OF PHILADELPHIA.

At the regular monthly meeting of the Ferrotypers' Association of Philadelphia, held at Mr. A. K. P. Trask's gallery, De-

cember 7th, 1869, the first annual election of officers took place, to serve the following year. The nominees elected were Mr. A. K. P. Trask, President; Messrs. E. F. Warrington and C. Naylor, Vice-Presidents; and D. Lathrop, Secretary and Treasurer.

The Society is now thoroughly organized, having adopted a constitution and by-laws, and meets regularly on the second Tuesday of each month at the different members' galleries.

Our object is to improve one another and look after the interests of the trade.

D. LATHROP,
Secretary and Treasurer.

PHOTOGRAPHIC SOCIETY OF PHILADELPHIA.

THE regular monthly meeting was held on Wednesday evening, December 1st, 1869; the Vice-President, Dr. Alexander Wilcocks, in the chair.

The minutes of the last meeting were read and approved.

Messrs. Robert W. Leaming and E. Moelling were duly elected members of the Society.

The competitors for the prizes then offered their prints and negatives, and the chairman appointed Messrs. Davids, Pepper, and Edward L. Wilson to act as judges.

On motion a recess was allowed to give the judges an opportunity of examining the pictures, after which they reported that they had awarded the prize for the best landscape to Mr. John Moran. The subject was a view on Cresheim Creek near Philadelphia. The selection of view and careful chemical work was much admired.

The judges reported that no pictures had been offered for the portrait prize.

Mr. Moran used, in making the prize picture, one of Roettger's lenses of ten-inch focus, with smallest stop.

Among the pictures exhibited were a fine variety of solar enlargements, from negatives by Messrs. Borda and Sturgis, enlarged by Mr. Albert Moore, embracing views in Pike County, Pa., and coast scenes near Nahant, Mass.

Mr. Edward L. Wilson showed to the Society a variety of the Holyoake mounting-cards; also a new and varied assortment of German card pictures, made by Loescher & Petsch, of Berlin; also several remarkably fine Rembrandt effects by Mr. W. Kurtz, of New York; all of his pictures were excellent, but one of a lady, admirably posed and lighted, deserves especial mention. It is difficult to conceive that light, chemicals, and fine manipulation could unite in forming a more pleasing picture than it.

Mr. Wilson offered for examination a complete set of the competing pictures for his prizes. They are very interesting, and will undoubtedly prove of value to the profession as examples of the different styles of arrangement to be used and avoided, showing the faults and good qualities of each.

The Secretary then exhibited one of Mr. Marcy's magic lanterns, to which he has given the name "Sciopticon." This is an improvement upon the original form adopted by him, whereby the excessive heat near the lamp is entirely avoided.

A large number of glass positives were shown; among them a dozen slides of groups of curiosities, arranged so that each department had its separate illustration. There were represented specimens of sponges, corals, shells, minerals, pottery, ancient china, heathen idols, antique watches, jewelry, etc. This very interesting and valuable collection is in the possession of Mrs. C. W. Pennock, of Delaware County, Pa.

The members thought so favorably of Mr. Marcy's new lantern, that it was, upon motion of Mr. Davids, unanimously resolved to purchase one of the instruments for the use of the Society, to be placed under the control of the Room Committee.

On motion, adjourned.

JOHN C. BROWNE,
Recording Secretary.

BOSTON PHOTOGRAPHIC SOCIETY.

THE regular monthly meeting of this association was held at Black's studio, No. 173 Washington Street, December 7th, 1869.

The President being absent, the meeting

was called to order by the Vice-President, Mr. T. R. Burnham.

The records of the last meeting were read and approved.

Mr. Allen, in behalf of the Executive Committee, reported on the subject of compensation to Mr. Black for the use of his studio for the meetings of the Association.

On motion of Mr. Low, it was resolved that the report of the committee be accepted and adopted.

Mr. Foss nominated Mr. Charles Furreaux, and, on motion of Mr. Black, he was elected a member of this association.

Mr. Low commented upon a remarkable photograph called "Kittiwakes," that was among the contributions of Messrs. Robinson & Cherrill, England, to our National Photographic Exhibition. This picture has called forth much discussion and many suggestions in the English photographic journals, as to how it was produced. He hoped that this Society would make an effort to obtain a copy of it for our album.

It was therefore resolved that the Society procure, or try to procure, a copy for our album.

On motion of Mr. Allen it was resolved that the Secretary be instructed to procure the picture.

Remarks were made by the Vice-President, Mr. Burnham, on the members entering into a competition to produce the best photographs, and exhibit them at our next meeting.

And on motion of Mr. Black it was resolved that we each and all make a picture of card size (same style as the Berlin cards), to present at our next meeting for competition. The one producing the best to have all of the pictures.

It was resolved that the subject for discussion at our next meeting be "Retouching the Negative."

Mr. C. A. Stevens, from Warren's rooms, Cambridge, exhibited a very light, portable, developing tent, which folds up into a small compass, and weighs but six pounds; also, a bath to go with it, which was a wooden box lined or coated inside and out with a mixture of coal-tar and gutta-percha. It seems nothing for a bath could be so simple and cheap and answer the purpose so well.

Mr. E. F. Gay, of Fall River, Mass., exhibited some fine cabinet pictures.

Mr. E. L. Allen also exhibited beautiful cabinets and cards from retouched negatives.

On motion, adjourned.

FRED. C. LOW,
Recording Secretary.

After our meeting adjourned, Mr. Black exhibited his new stereopticon.

The first transparencies exhibited were by Mr. E. L. Allen, of Mt. Desert scenery, followed by Niagara views by Mr. John P. Soule. These were followed by White Mountain views by E. F. Smith. All were very fine. These were followed by about one hundred transparencies, taken from negatives by Mr. Black's assistants, Messrs. Dunmore and Critcherson, on the Bradford Expedition to the Arctic Regions. They were very interesting, as all must know who have read Mr. Dunmore's excellent article, "The Camera among the Icebergs," in the December number of your Journal.

I understand that it is the intention to exhibit these views to the public by the aid of stereopticons, simultaneously in the cities of Boston, New York, and Chicago.

F. C. L.

NORTHERN OHIO PHOTOGRAPHIC SOCIETY.

THE Society met at A. Price's rooms, 319 Superior Street, Cleveland, December 2d: President Ryder in the chair.

The minutes of last meeting were read and adopted.

The Committee on Closing Rooms on Sunday then made their report: "They had presented the pledge to all the photographers in the city but one, and all to whom the pledge had been presented had signed it except one."

The following are the names of the photographers who pledge themselves to close their rooms against customers on the Sabbath day: J. H. Nason, R. L. Wells, J. F. Ryder, A. Price, W. C. North, F. Tyler, J. Dennison, W. Dennison, T. L. Parker, P. C. Nason, J. M. Green, S. Crobaugh, E.

Decker, M. E. Beckwith, D. F. McLeod, R. E. Weeks, H. C. Strickland, T. T. Sweeny, F. D. Pratt, and N. E. A. McLeod.

After a brief discussion in regard to the photographer who refused to sign the pledge, it was finally determined that the Sunday law should be enforced against him if still persisted in opening and operating his rooms on Sunday.

On motion the report was then adopted and committee discharged.

The Committee on the Schonemaker and Wing Suit was then called upon to report. Mr. R. L. Wells, of that committee, gave a short history of the points in controversy between Schonemaker and Wing. The committee thought that Schonemaker was deserving of financial aid in defeating another unjust claim.

The report was adopted, and the Society donated \$25 to Schonemaker.

On motion, the President appointed the following Committee of Equalization, to equalize assessments when money is to be raised by taxing the Society: R. L. Wells, M. E. Beckwith, and J. C. Potter.

The Society then proceeded to discuss prices of work.

After remarks by several, on the propriety of making better work and getting better prices, the President appointed Messrs. Wells, Beckwith, and Decker as a committee to make a list of prices, and report at our next meeting in January.

The Society then adjourned, to meet at J. F. Ryder's rooms, 170 and 171 Superior Street, Cleveland, on the first Thursday evening in January, 1870.

J. C. POTTER,
Secretary.

MOSAICS FOR 1870.

No book more useful will greet another year of photographic history, than the little annual "Mosaics" for 1870.

It is a fitting clasp to bind up the volume of the past year. Its perusal has been both pleasant and profitable, and every friend to improvement and progress will hope that it may have an extended circulation.

In glancing at a work of this kind, it is interesting to note how members of one and the same fraternity seize upon special topics, concentrate their study, make experiments, draw conclusions and form rules for professional guidance, and—best and most commendable of all—record the same gratuitously for the benefit of their fellows.

Singularly too, there seems to be no topic in our work too insignificant for consideration. If the outside world be told that, with us, it is *very* important to discuss the subjects of "Paste," "Glass-cleaning," or "Dirt," &c., it would seem amusing; and yet the excellent contributions of Bloede, Baker, and Wilson prove the necessity of care in understanding even these apparent trifles. If then there is a potency in these "little drops of water and little grains of sand," how much more essential it is that the greater truths be pondered and understood; and where in the photographic library can search be made for a book, embracing in such a degree, freshly-penned chapters upon almost every possible subject known to the art, and written by photographers "known and approved of all men?"

Five years ago I paid *twenty dollars* for not as much—and certainly not so good—formulæ as that contained in the chapter entitled "The Whole Story,"—of only one and a half pages! Publishers of popular magazines would not pay much for *such* a "story," but it is nevertheless above price to every ambitious student of photography who seeks a "reliable method" of working from beginning to end.

"Mosaics" being a compendium of the whole range of photographic knowledge, becomes *an assistant*, a text-book in every department. From beginning to end the student and professional both find subjects to their pleasing; and so completely have the publishers performed their duty, that they may *safely* say "we desire that our patrons should pass judgment without comment from us."

I feel assured that next year's volume will supply the *only* deficiency of this, and that some one of our artist brethren will furnish a chapter on "how to *paint* photographs," since we are told so well how to *make* them.

GEORGE B. AYRES.

Pictorial Effect in Photography.

WE have endeavored frequently to persuade our readers that it is quite as important to study pictorial effect and to try to attain it in their work, as it is to endeavor to make perfect negatives and prints, and many will remember our series of papers on "Art Principles Applicable to Photography," which appeared in these pages during 1868.

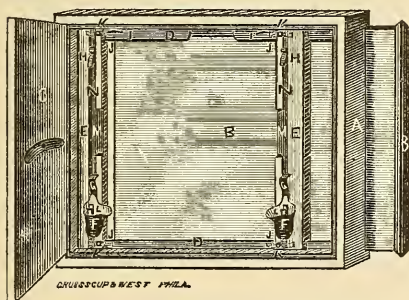
Mr. H. P. Robinson, who is probably the most accomplished *art* photographer in Europe, and whose admirable composition pictures attracted so much attention at the National Exhibition in Boston last June, has recently put forth a work of infinite value on the subject which heads these remarks, covering the whole ground of composition and light and shade, together with a chapter on combination printing. Both portrait and landscape photography have their share of attention, and both are amply illustrated. The work contains a picture by the Woodbury process; one by Swan's carbon process; another by the ordinary silver process; several photolithographs of etchings by the author, numerous engravings of celebrated paintings, and diagrams and woodcuts in profusion. No one can study this excellent work without being better able to pose and compose his subjects, and to light them more artistically. The faculty of artistic sight he maintains does not "come by nature" as many say, but that it is a cultivated sense. Therefore there is encouragement for every one to study and practice the rules which guide one to more perfect results. Those who are unskilled comparatively, hardly realize how much there is to learn that is of value to them. This book will open their eyes and enlighten them, if they can but see when their eyes are open. We have learned much from its perusal and shall often have to refer to it. Those who have *Photographic Mosaics* for this year will observe that on page 110 there are some extracts from Mr. Robinson's book which are a type of the whole. It is *useful*, and we recommend it. Would that we were able to place it gratuitously in the hands of every one of our subscribers. Our publishers have, in order to enable those ambitious to improve their work, imported a supply which

are now ready, and are advertised this month. The book contains 199 pages divided into 41 chapters of matter of intense value to you all. It is plainly written, and is printed on fine toned paper. Aim high, and try to *excel* in all you undertake. The most pleasing and successful work always comes from those who exercise the greatest amount of artistic feeling in the treatment of their subject, be it a portrait or a landscape.

Buchtel's Photographic Plate-Holder.

THERE is so much waste in every photographic studio, that wherever it can be done it is to the interest of the photographer to adopt every means to prevent it. The drippings from the plate-holder, as it is carried from the dark-closet to the camera, doubtless waste enough to purchase a new box every year, in many studios.

Another annoyance is the rotting of the tablets in the holder, thus causing them to be out of focus; and still another, where one camera-box is used for various sizes, is the necessity of placing a small tablet within a large one to suit the size you wish to work.



All these troubles and all this waste are said to be prevented by the invention by Mr. Joseph Buchtel, Portland, Oregon, of a new plate-holder, of which the above is a drawing. B B is the dark-slide; C the door of the holder; two right and left pieces E E are arranged to move to or from each other on the ways D D (above and below). There are two pitcher-lipped glass or porcelain vials F F, on the inside of whose lips are supports for the plate L L, which approach two other supporting points H H, in a dovetail groove N N (one in either piece E E).

All of these points are therefore adjustable, so that if it is desirable to change the holder after using a large plate, to accommodate a smaller one, L and L and H H are made to approach each other, as are also E and E, and *vice versa*. To effect the condition of focus the four supports L L H H, being supported by the pieces E E, are made to approach the lenses by springs J J J J, there being one at each end of either piece E E, working against the back side of the ways D D.

These same supports move from the lenses by screwing against the said ways any of the screws K K K K. At I I there are springs which press the pieces E E downwards against the way D, to assist in keeping the pieces wherever they may be placed. The pitcher-lipped vials of course catch the drippings of the plates, and are firmly attached to springs C C. When the vials become filled they are raised up to the opening M M, taken out, emptied, and replaced.

The supporting points alluded to serve as the corners of the holder. The under and rear ends of H H slope downward and toward the glass, so that a drop would come to the glass were one on either H or H. From the model before us, we should think the invention a very useful and practical one. Mr. Buchtel has patented his invention, and Messrs. E & H. T. Anthony & Co., New York, are his agents. This holder can be made to suit any camera.

Hints on Cutting out Stereograph Pictures.

BY J. CARBUTT.

IN looking over a collection of stereographs I have, made by various photographers, I notice, with a few exceptions, a great difference in the amount of subject contained in each half of the stereograph, and in the distance from a centre object in one half to the same object in the other half, ranging from three-eighths to an inch or more. Now this is a serious error, and very detrimental to the interests of the stereoscopic trade. The stereographs I find to be the most accurately cut, are Wilson's, Scotch, and England's Swiss views, and the worst, are by French and German pho-

topographers. A view now before me of Antwerp Cathedral, with Rubens' statue in the foreground, has, when viewed in the stereoscope, only two and one-sixteenth inches of subject, giving the appearance of a small carte-de-visite, yet each half is three inches wide. In contrast to this, another view, each half being three inches wide, gives when viewed in the stereoscope three and five-eighths inches of subject, requiring great strain on the eyes to see it stereoscopically. The error in the view of Antwerp Cathedral is caused in having seven-eighths and one-sixteenth of an inch more subject included on the right half when mounted, than in the left half, and had that additional amount of subject been on the right of the left half, it would have been impossible to have combined the two halves in the stereoscope, because it would have made the centres three and fifteen-sixteenths inches apart. That there should be some uniformity in the distance occupied from centre to centre of a stereograph, is a fact generally conceded, yet a difference of opinion exists as to what that distance should be. Some say two and a half inches, others two and three-quarters to three inches. I have found but few persons who could not with the Holmes' stereoscope, combine without any fatigue to the eye, the stereograph images when the centres did not exceed two and seven-eighths inches to three inches. That is the distance I find most common in the views by Wilson and England. When negatives are cut and the halves transposed before printing, the centres are fixed, and the distance cannot be changed in the trimming. But if the two halves are cut out from an uncut negative, and care is not taken to include the same amount of subject in each half, then both the distance from centre to centre and amount of subject included can be changed, as will be explained by reference to the diagram annexed, which is a drawing exactly the size of my own negatives and the shape the prints are cut out. Let us suppose the diagram to be a stereoscopic print from an uncut negative, and from figure 7 to figure 7 is three and three-eighths inches. You fold the print in the centre, and if you wish to trim with a glass, first trim off the top and bottom edge; you lay a glass shape on it

three inches square, with its top edge even with the top of the print, and its right edge three-sixteenths of an inch from the right edge of the folded print; trim off right and left. On examination, and placing the halves together to be viewed stereoscopically, you will find the centres of the view to be three inches apart, that figures 1 and 13 are included, and that you have three inches of subject included in the view. Now if instead of placing the right edge of the glass shape three-sixteenths of an inch from the edge of the print, you place it three-eighths of an inch and trim off the right and left margin, you will find you have left out figure 1 in the right, and figure 13 in the left half, and when viewed in the stereoscope you see three and three-sixteenths inches of subject, and from figure 7 to figure 7 is that distance apart. Again, had the glass been placed close to the folded edge and the prints cut out, figure 1 of the left, and figure 13 of the right half, would have been left out, the centre or figure 7 would have been brought so much the closer together, and the amount of subject included two and thirteen-sixteenths of an inch. To obtain an approximation to uniformity in mounting the views I publish, I first arrange my lenses on the front of my camera, so that from centre to centre is three and three-eighths inches. If the central division of the camera does not leave a narrow perpendicular line of clear glass in the centre of the negative, I make one by laying a square on the negative, after varnishing, and clean off, with a chisel-pointed bradawl, the varnish for an eighth of an inch in the centre;* on this line on the print the mounter lays an ivory paper-folder, folds the right over the left half, and makes a mark in pencil on the right half, to designate that it is to form the left half when mounted. The print is then put in one of Bergner's stereo cutters, the folded edge resting against the piece of metal that forms the space to receive the print, and which is

* The annexed design is made so as to represent this centre line. Also the outer marginal line is the actual size of the plates Mr. Carbutt works—5 x 8 inches, and the inside line the size of the print when trimmed for the cutting machine.

1 2 3 4 5 6 7 8 9 10 11 12 13

1 2 3 4 5 6 7 8 9 10 11 12 13

three-sixteenths of an inch from the right edge of the cutter, the lever handle is pressed down, which forces the centre up and cuts out both halves at once.

It will be seen that there is a piece cut out of the centre of three-eighths of an inch in width, which answers to the amount the lenses are separated over three inches. I find this the most reliable plan of trimming stereographs, and recommend it as much superior to the plan of trimming with glass and knife. I formerly used a punch and rawhide block, but the punch would grow dull, and the rawhide wanted occasional planing. But the above plan I have used daily for nearly two years, and the cutter cuts as well now as when first tried. Some photographers take their views with the lenses four inches apart. In such a case, the distance from side guide to the edge of the cutter would have to be half an inch. Both halves would be found to contain to a fraction the same amount of subject. The size of my cutter is three inches wide, by three and one-eighth in the clear, and was obtained from the manufacturers, Wilson, Hood & Co., Philadelphia.

NEW YORK CORRESPONDENCE.

IT is now some months since my letters have found a place in your paper; not, however, from any loss of interest in our art, but from causes beyond my control. Since my last I have visited many, very many of the craft in a social way, when visiting their cities and towns upon business of my own, quite foreign to photography. I have visited nearly every State in the Union, and have seen some work that pleased me, but much, very much that was not even good.

Why it is that so much poor work is made is beyond any conjecture of mine, except it be that so-called artists are not artists at all, and have no desire to be. Beyond fear of contradiction, I assert that it costs no more to make a good photograph than a poor one; indeed, if a good negative be made it costs far less to make a dozen prints than it would to make the same number from a streaky, dirty, stained negative; over which prints much time is spent in endeavoring

to make them passable, but never good. More study and more care must be given to the *elements* of our art by its followers, and less to the thousand and one suggested and useless formulæ, new and old.

The December meeting of the Photographic Section of the American Institute was presided over by Prof. Charles A. Joy, Vice-President. At the previous meeting a resolution was proposed by the Section, in which it was declared that the award of premiums at the late Exhibition was wrong, and the same was ordered sent to the Board of Managers of the Exhibition. In accordance with the spirit of said resolution, the Board of Managers rescinded their former action, and awarded to Mr. William Kurtz, 872 Broadway, N. Y., the *only* premium for photographic portraiture. Mr. Newton reported that he had continued his experiment upon the alkaline bath, and had found that results equally good were had with such a bath in half the time of exposure comparatively to the acid bath. He exposed in a flat glass bottle tightly corked, crystals of nitrate of silver to the action of sunlight for two months; these, darkened to grayish-blue color, were subsequently dissolved in distilled water, and the bath so made was positively alkaline, and gave results he thought far better than could be had from any acid bath.

Prof. S. D. Tillman remarked that the discovery made by Mr. Newton was singular, and likely to lead to important results. Assuming that the proof is positive that crystals of pure nitrate of silver, when exposed to direct sunlight for a given time, will be changed in appearance and in character also, since an aqueous solution of this neutral salt after such treatment has been shown to be decidedly alkaline, the manner of this change becomes a question of great interest, because it differs from any chemical action before observed. He did not believe the alkalinity of the compound was due to a single element, but was the result of the unusual combination of two elements, resembling somewhat the action by which the volatile alkali ammonia is produced by the union of three atoms of hydrogen with one of nitrogen. The body under consideration contains nitrogen, which is a

triad, its least saturating power being, tri-atomic, and, as seen in the case of ammonia, one atom of it is capable of holding three atoms of the monad element, hydrogen. The strongest reason for supposing that silver may play the same part as hydrogen, is that both are monatomic. Only nine other elements belong to this class of monads, namely, fluorine, chlorine, bromine, and iodine among the electro negatives, and lithium, sodium, potassium, rubidium, and cesium among the electro positive simple bodies. If we suppose that the presence of water is necessary to this change, we may represent the new combination by following the example of Berzelius, who regarded even an aqueous solution of ammonia as the oxide of ammonium. An atom of water and an atomoid nitrate of silver belong to the same type, and are expressed by



in which the atomic weight of oxygen is doubled (16); and these same elements, after the change which produces alkaline characteristics, may be represented by the tetrad thus:



It may be observed here, that a change in chemical structure does not necessarily involve a change in chemical functions, but the typical formula expresses more clearly the new part which it is now supposed may be played by silver, and which, if confirmed by further experiments, will become the starting-point in a new series of discoveries.

Mr. Newton further remarked that an increase of alkalinity did not give increased sensitiveness. The bath should be faintly alkaline.

Mr. Chapman stated that he had made many experiments with an alkaline bath, and was fully satisfied that it would not answer to use such in cases when plates had to be kept long after removal from the bath and before the exposure—such he was confident would always fog. He stated that he had made baths alkaline by the use of cyanide.

Mr. Newton was of the opinion that if he had used ammonia or sunned his baths, such results would not have followed. He believed that the fog in Mr. Chapman's case was owing to a deposit of salts from the cyanide upon the partly-dried plate.

Mr. Kurtz exhibited the negatives from which he is now printing for your Journal, that all could satisfy themselves that they were not retouched in any degree; also prints from same. I make bold to say that it excels any portrait ever published by you, or in any photographic journal the world over. Mr. Kurtz also exhibited and explained a new and most ingenious as well as complete reflector arranged with wings on top, bottom, and sides, so that light can be thrown in any direction, and by its use any effect of same can be produced. The side wings or reflectors are concave, so that the light can be concentrated and not lost as now by diffusion, a capital idea; all of which he most generously gives to his brother photographers, although, if patented, it would, in my opinion, prove a profitable operation. Such men not only benefit the craft, but, by their improvements in our art, raise its standard and benefit the human family; all honor is due him.

Mr. Chapman pitched into you a little for the reason that, on page 103 of *Mosaics*, for 1869, you publish a process of Mr. England for cleaning silver solution, he claiming that he was the first to suggest the same in the *American Journal of Photography* (Seeley), September 1st, 1865, page 117, and that you had also published the same in vol. ii, *Philadelphia Photographer*, page 165, in the Summary, by M. Carey Lea.

Mr. Bierstadt exhibited a fine series of pictures made by the process of J. Albert, of Munich, Bavaria, and which has within a month been patented in the United States. As you will, no doubt, publish specifications of the same, I will not here attempt a description. One of these pictures was 20 x 25, and was pronounced by all to be superb.

Prof. Joy also exhibited a series of the same, recently received by him from Prof. Woehler, of Gottingen, which were also much admired.

Mr. Hull offered the following resolution:

Resolved, That this Section consider the words "plain photograph" in the classification of the American Institute for exhibitions to be: all photographs not retouched upon the positive print, except so far as may be required to remove pin-holes, and such trifling defects as are common to negatives or prints.

After discussion it was unanimously adopted.

After much pleasant intercourse, but little other business of general interest, the Section adjourned to January, 1870, and leaving to posterity another year of photographic history; one in which much advance has been made in the quality and artistic value of its products, even though it has not been marked by any great discovery or wonderful improvement.

Wishing to all a year of progress, profit, and good cheer, I am, as ever,

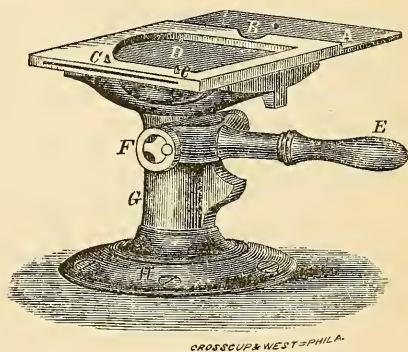
C. W. H.

BERGNER'S STEREOSCOPIC PRINT CUTTER.

MR. CARBUTT'S paper will excite a great deal of interest among those who produce stereographs in any quantity, for it is touching a matter which does not receive the careful attention it should. Those who are not directly in that line of trade, have scarcely an idea of the immense quantities of stereoscopic pictures that are sold. Those who have a nice, attractive series of negatives know that they are a continual source of revenue to them, and add much to the profits of the year. And the time is coming when the majority of photographers must produce more or less stereoscopic work. To do it *well*, then, should be their greatest aim, and, to produce in quantities to meet the competition that will exist, it is essential to adopt the most economical plan of working. The cutting out of the prints, before or after toning, occupies considerable time, but the old-fashioned ways of a knife and form, or punch and block, as Mr. Carbutt states, are no longer economi-

cal. Noticing this, also, Mr. Theodore Bergner, an experienced amateur photographer of this city, has perfected a little machine that has proven invaluable to all who use it, for the rapid trimming of prints.

The cut below is a careful drawing of the one adapted to the stereoscopic size. The prints are folded over as instructed by Mr. Carbutt, laid upon the guide A, pushed through the opening in the side at B, over the die or punch D, until the edge of the print touches the pins C C, which stop its further progress and keep it in place. The handle E is now quickly brought down by the hand, which action, in connection with the joint F and a spring-cam movement in the post G, causes the die or punch D to be forced upwards against the print and to cut it out, of proper shape. Thus, both ends of the stereo print are trimmed at once of the desired shape and size. The trimmings are removed by placing the thumb



CROSSCUP & WEST - PHILA.

at B, and drawing them towards you, when the machine is again ready for use. It is a perfect little piece of mechanism, and works like a charm. The flange H is furnished with screw-holes, by means of which the machine is fastened to the table or stand. We described the larger sizes some time ago. They are in daily use by many of our best artists, but are unknown to many more, and since Mr. Carbutt has revived the subject, we thought it would be well to describe this size again. Mr. Notman, of Montreal, has six or seven of various sizes, we are informed. Messrs. Wilson, Hood & Co. are the manufacturers.

NOTES IN AND OUT OF THE STUDIO.

BY G. WHARTON SIMPSON, M.A., F.S.A.

I.

Preliminary—Fire in a Photographic Studio—Photographic Exhibition—Idealism in Portraiture—How to Recover a Lost Negative.

LONDON, December 1st, 1869.

As my "Notes" will reach your readers just when the echoes of the old year have ceased, will you permit me to carry out our old world custom of wishing my known and unknown friends in America a happy and prosperous new year? In my communications with them through the press of the *Philadelphia Photographer*, during the next twelve months, I shall, whilst endeavoring still to make my notes from this side of the Atlantic practical, as heretofore, occasionally diversify my letters with items of general photographic intelligence, gossip, news, in short with anything which I think will interest photographers, and promote the interests of photography. I shall thus have an opportunity of keeping your readers "posted" on all matters of photographic progress, scientific, artistic, commercial, and social, in this part of the world. With such a comprehensive subject, and limited space, brevity must be my constant watchword. So no more preliminary observations.

Fire in a Photographic Studio.—The studio of Mr. Valentine Blanchard, one of our most capable professional photographers on this side, has just been entirely destroyed by fire, and in it all his cameras, lenses, accessories, and in short all the plant of the studio, as well as the photographic equipments of three pupils who had been receiving lessons. Mr. Blanchard is a manufacturer of a collodion of high repute, as well as a portraitist and landscape photographer. In the dark-room attached to his studio, some twenty or thirty gallons of collodion, ether, and alcohol, were stored in glass barrels. From some change in the temperature one of these barrels holding six gallons of collodion burst, and gas being burning in the same room, the fumes of ether eventually came into contact with the flame. An explosion followed, which blew Mr. Blanchard into the middle of the adjoining

garden, where he found himself fortunately but slightly hurt, being a little cut by the shattered glass of one of the sashes, which he found on the top of him. The remaining barrels of collodion, etc., were speedily ignited, and these with a few pounds of gun-cotton, produced a succession of explosions, and a raging fire which destroyed the studio and its contents utterly in twenty minutes: a few ashes, some shrivelled brass tubes, and a little molten glass, being all that remained within the portions of brick wall forming the supports of the studio, which were left standing.

Photographers do not generally keep such a large stock of collodion or ether on their premises as that just mentioned, and they know very well, as a rule, that the vapors so readily given off are dangerously inflammable; but it may not be amiss again to enforce the fact on the attention of all photographers. A pound or less of collodion would be quite sufficient, if once ignited, to set on fire the premises where it was stored. It is a wise rule never to keep more than a few ounces for immediate use, in any apartment where the flame of a fire, gas, or a lamp, ever has access. In storing collodion the bottle should never be more than seven-eighths or even three-quarters full, to allow for expansion in case of any rise of temperature, and the stoppers should be tied down. Good corks are better in many respects than stoppers, as the latter are sometimes blown out, and falling down again may break the bottle. Bottles containing any stock of collodion are better placed on the ground, or on shelves low down, than on high, as the vapor of ether being heavy falls, and when it is near the ground is comparatively harmless, as a flame is not likely to be put down to it; but if a bottle on a high shelf were to burst or crack and leak, the vapor in falling would be most likely to come into contact with any light in the room and so get ignited. Lastly, if by chance a bottle containing any quantity of ether or collodion, get broken or overturns, even in the dark, under no circumstances should a light be brought into the room; but all lights put out, and fires in adjoining apartments as speedily as possible, and then by throwing open windows and doors a draught should

be secured to dissipate as quickly as possible vapors of the spilt spirits.

Photographic Exhibition.—A very successful exhibition has just been held in connection with the London Photographic Society. By common consent amongst photographers and art connoisseurs, this has been pronounced the very best exhibition of photographs ever seen in this country, the especial distinction being the great advance in art excellence manifest in the mass of the pictures. It was kept open three weeks, and many thousands of the public, besides photographers, visited it, between one and two thousand of catalogues being sold to the public, besides those distributed gratuitously to members of the society. Such exhibitions are valuable in every way. They show the public what progress is making in photography, and they stimulate that progress by affording photographers an opportunity of seeing what is done by others, and by creating friendly emulation amongst them. The London daily and weekly press has given some excellent notices of the pictures exhibited, although in some instances too much tinctured by the jealousy of the conventional art critic, who sees the rapid strides with which photography is advancing to claim an unchallengeable niche in the temple of the Fine Arts.

Idealism in Portraiture.—The writer of the article in the *Times* on the recent exhibition, Mr. Tom Taylor, recognized as an able and accomplished art critic, has felt it necessary, in face of the advance made by photography in the domain of pictorial art, to offer a vigorous protest against the use of photography for picture making. He says that he has before expressed his conviction that the true function of photography is to "record facts as they are, and not as arranged for pictorial effect." He adds: "If, indeed, the theory of some of our painters were true—that the painter's work is simply to represent what he sees before him—then the photographer might claim to be put in the same rank as the painter, and above him. . . . But if, as we hold, the distinctive function of the painter's art be not transcription, but new creation, the condition of which is the subordination of the

objects represented to certain mental states and acts of the artist, it is evident that photography is excluded, for the sun *will* paint what he sees as exactly as he can." I fancy from occasional opportunities of judging, that art critics, even in advanced America, are scarcely more just to photography. I always feel concerned to protest vehemently against errors so repressive of art effort on the part of the photographer. The paragraph I have selected from the *Times* critic is brief enough, but it is most comprehensive in its error, and because I fear that error is common in all communities, perhaps you will allow me briefly to repeat here my ground of protest against it. I need not dwell on the error of narrowness in supposing all art to be of a creative character, which excludes at once from the art category all imitative art. This scarcely needs discussion. Nor is it necessary to enlarge on the further error in regarding photographs as the work of the sun in the sense indicated. They are the work of the photographer, and, within limits, as distinctly bear the impress of the producer's mind, and indicate his capacity and intention as truly, as do the results of other plastic arts; indeed, all praise or blame of the photographer for the art qualities of his work would be meaningless if they were beyond his control, and simply the work of the sun.

But the cardinal error is the assumption that it is not the function of the painter to paint what he sees, at least in all renderings of nature, whether in portraiture or landscape. This is, of course, an old subject of controversy, embracing much wider considerations than belong merely to photography. It involves the question as to whether art should represent truth, or merely the painter's conception of truth, which, in any departure or modification, must, we submit, fall short of, rather than transcend, truth. I utterly protest against the notion, in portraiture at any rate, that there should be any "subordination of the objects represented" to the mental state of the artist. The notion of idealizing portraits is an old one. That the artist should invest his sitters with a grace or a nobleness not their own was at one time regarded as a matter of course.

Dr. Johnson said, that it was one of the highest proofs of the genius of Sir Joshua Reynolds, that he contrived to give nobleness to the head of Goldsmith in his portrait, whose genial soul and fine intellect were not habited in a very dignified or handsome body. If Reynolds gave to Goldsmith a nobility of countenance which nature had denied, but which the painter conceived was more characteristic of the inner man than the actual presentment, then we have in the portrait Reynolds's conception of what Goldsmith ought to have looked like, and not the actual portrait of the man. If he merely depicted him at his best, happily catching the expression which lit up the face when it was aglow with some unusually happy thought, then he did not give Goldsmith the noble look, but, with the true painter's skill, readily detected the noblest effect, and gave permanent form to a transient expression. This is the prerogative of the painter, in many sittings, during many hours, to effect. It would be equally the prerogative of the skilful photographer, with a tithe of the time and opportunity, if either were afforded him; for if the highest duty of the painter is to seize and to perpetuate the best actual expression presented to him, photography can do that more rapidly and efficiently than the most skilled hand can be expected to effect it. Photographs, it may be admitted, then, are rarely such noble portraits as the skilled painter can produce, simply because the photographer rarely has such opportunities, in the few brief moments often given up to sitting for a photographic portrait, of seeing and securing the best phases of his sitter's countenance, as are afforded to the painter.

"How to Recover a Lost Negative when you have a Print Thereof," is the title of a series of pictures exhibited by Mr. Rejlander in our exhibition, and the pictures admirably illustrate the lesson they are intended to teach. The subject is one of his well-known *genre* pictures, with the title "Please give us a copper, sir!" The negative has been lost or broken, and the subject being still in demand, it was desirable to produce another negative. Every photographer knows that prints from a negative reproduced from an albumenized print the full size of the plate

are generally immeasurably inferior to those produced from the original negative. The picture is flat, the definition is faulty, and the texture of the paper, being reproduced as perfectly as the image, produces great coarseness.

Mr. Rejlander deals with the difficulty in this way: he first reproduces the original whole-plate print in reduced proportion, a card-size negative being obtained, and, by such reduction, the best definition is secured. From this small negative an enlargement on plain paper about fifteen by twelve is obtained; and this enlarged print is very carefully worked in monochrome—water color, chalk, or charcoal being employed, this latter being most suitable. This part of the work requires, of course, great skill and care. The points requiring especial attention from the artist are to preserve roundness and modelling, to avoid bold hatching or coarse manipulation of any kind, and to retain the likeness with scrupulous accuracy. A bold, round, well-modelled picture having been secured, with soft gradations closely resembling those of photography, a negative reduced to the original size is obtained from it. If the work be skilfully done, it will yield prints equal to the original in every respect, and, if necessary, in some respects superior, as is shown in the series of prints in which Mr. Rejlander teaches the lesson.

GERMAN CORRESPONDENCE.

Silvered Paper that will Keep—To Separate Retouched Pictures from the Mounts—Durability of the Negatives and Dextrine as a Preservative against Splitting—Retouching before Varnishing—The Varnishing of Underexposed Negatives—The Expense of Photo-Relief Prints—Loescher & Petsch's New Studio.

THE old story of the egg of Columbus is often verified in photography. Intelligent and practical men will search for years the solution of a problem, much time, money, and labor are wasted, and, when we think that the discovery has been made, we only find that much is wanting yet. This has been the case with all the experiments to pro-

cure a permanent silvered paper, which can be kept for an indefinite period, which will not turn yellow in the copying-frame, and still possess all the other qualities of an ordinary silvered albumen paper. The first attempts were made with a collodion paper. You remember Obernetter's, which gave beautiful results, but the film was very apt to peel off, and besides, the exposure was very great. Mr. Ost, in Vincennes, published the formula for the making of this paper, which I, at the time, communicated to you in this correspondence. The process was complicated and expensive, and the result all in all, but unreliable. A few months ago Schaffner & Mohr produced a carbonate of silver paper. The paper was very deep, kept excellent, and became sensitive only by fumigation with ammonia, the pictures also as good as with albumen paper; in short, the problem was solved, but still a secret.

I can give you now the secret. A photographer by the name of Baden, in Altona, has found that he obtains a paper as good as the carbonate of silver paper, by taking common albumen paper, silvering it in the ordinary way, and, after washing it in three or four waters, he dries it. As soon as I heard of it I made the trial. I took some albumen paper, silvered it, washed it in four changes of water, and, after drying it in the dark, kept it for two weeks. The paper kept perfectly white; the paper as well as the cushion of the copying-frame, were fumed for half an hour with ammonia, and I obtained in rather dark weather in the ordinary time, a print which, in regard to vigor and depth, was fully equal to a print on albumen paper. The fixing and toning proceeded in the ordinary manner.

This solves the problem in the simplest manner. Every photographer can now make his own "permanent paper," and many an amateur who has abandoned the printing process on account of the trouble and the soiling of the fingers, can purchase the silvered paper. The practical photographer, whom unfavorable weather prevents from using up the paper prepared for a day's work, has a simple means at hand to save himself from loss, for the paper will keep for weeks.

Another practical suggestion concerning

our silver pictures on paper I will not omit here. Every dealer in mounted and retouched prints is aware that the prints, by frequent handling, become soiled, and, in consequence, the pictures have to be sold at a reduced rate. It becomes a matter of importance to find means to detach such retouched prints from their mounts in such a manner that the retouch shall not suffer by it. Mr. Grasshoff has accomplished this by covering the picture with diluted plain collodion, and then places it in hot water, to soak it off the mount. The collodion protects the retouch, and is simply laid on with a broad brush.

We have lately been treated again, in our society, with the old song about the splitting of the varnished negative film. This has happened unusually frequent of late, and valuable negatives which cannot be replaced have been lost. The lively discussion of this subject evidently proved that we are still, in a measure, ignorant of the causes of this evil. I, for my part, feel convinced that the excessively damp weather of the last three months is the main cause of it. The dampness of the atmosphere does not only operate after, but during varnishing. The collodion film is porous like a sponge, and absorbs moisture in a high degree. A negative which has been varnished in damp weather is quite different from one which has been varnished in a dry atmosphere. I noticed this fact in a remarkable manner during my last year's voyage in Egypt. At Aden, where the air is constantly saturated with moisture, we found it impossible to get a clear varnish on our negatives. We tried different kinds of varnish, we exposed the negatives to a high temperature; it was all of no avail. The varnish would become cloudy, while, on the other hand, in the Lybian Desert, the same varnish would give a beautiful transparent film. I think this proves, beyond dispute, the evil influence of the atmospheric moisture during varnishing.

The difference in the permanence of the Aden and the Desert negatives is remarkable. The Aden plates are very tender, and part of them covered with innumerable cracks; while, of the eighteen negatives of

the Desert, only six show some slight splits in the film.

It has been frequently tried to protect the negative by a double film. It has been recommended, for instance, to cover the negative first with a solution of gum arabic and, to varnish it afterwards; but my friend Petsch tells me that in this he has not succeeded. Still worse is a caoutchouc solution, as recommended by Mr. England; it makes the plate still more sensitive.

Others, again, have contended that the film will split on plate-glass only. This supposition is also erroneous. An experienced photographer here, a Mr. Schuler, calls attention to a process which he has employed successfully for the last three years; he covers the plates after they have been varnished with a solution of dextrine 1.8; and he stated particularly that since he has followed this plan he has never been troubled with splitting of the film; while formerly he often was annoyed in this way. The primary film offers still another advantage: it will take the lead-pencil retouch, and this being afterwards covered by the varnish, makes the retouch as permanent as the negative itself. In how far dextrine is suitable for this purpose, remains still to be seen. I, for my part, have used for a retouch surface a gelatine or gum arabic film of the consistency of 1.25; such a layer will take a lead-pencil mark of a darkness that is unattainable on the varnish. The plates, however, require several hours to become perfectly dry, and this is sometimes a serious drawback.

Another circumstance I must mention here, which Mr. Linduer stated in our society. It sometimes happens, and particularly with under-exposed pictures, that the collodion film will burst in drying; to avoid this, Mr. Linduer lets the plate become partially dry, and covers it cold with ordinary varnish; the plate, of course, becomes perfectly cloudy and milky; he now lets it become perfectly dry and revarnishes it, when it will appear perfectly transparent.

In one of my letters which I sent to you last summer, I made a lengthy report on the Woodbury relief printing process, by Goupil, in Paris. I find this statement reprinted in one of the English journals. In

the articles I gave full credit to the excellence of the results, but observed that the mounting was as expensive as the printing. Mr. Woodbury, the inventor, objects to this, and says the process is no more expensive than ordinary lithographing. It may be possible that, in England, the mounting is cheaper than in Paris. My publisher had to pay M. Goupil one hundred and fifty francs per *thousand cabinet size* for mounting.

You may have heard that Messrs. Loescher & Petsch have constructed a new studio with "all the modern improvements." They have occupied it for a week. In my next letter you shall have a full description and drawing of the same.

Yours, very truly,

DR. H. VOGEL.

Coloring Magic Lantern Slides.

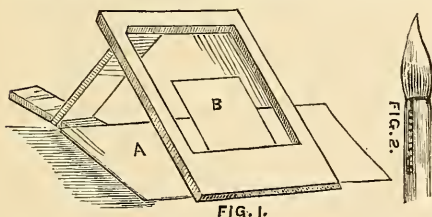
IN answer to a request made in our last issue, an "old practitioner" has sent us his method, as follows:

"Seeing a wish for instruction expressed in your magazine on the subject of coloring lantern slides, I offer you the following for the use of your subscribers. In the first place, the operator must have some little knowledge of the rules of the art of coloring. Then all will go smooth as the marriage bells, if he procures the following necessaries. 1. A selection of oil tube colors, such as are used by artists in oil painting, avoiding the opaque colors and selecting the transparent, such as the lakes for red; verdigris for green; gamboge for yellow, and some of the dry aniline colors. But if he goes to a respectable artists' color dealer and explains that he wants transparent colors only, it will save trouble in the selection. 2. Procure a small bottle of *mastic varnish*, one of spirits of turpentine, and a dozen soft brushes. 3. A kind of frame to lay the slides on (see cut below), placed at an elevation of 45 degrees, and a flat board to stand on the table, covered with white paper. This will give a kind of desk to work on, and the paper a guide to the effect that you are producing. Such a little apparatus does capitally for touching up negatives as well. Now to work: var-

nish the transparencies with BLEACHED SHELLAC IN ALCOHOL. This is important for many reasons not necessary to give here. Take a white porcelain palette (a dinner-plate will do), put a little of each color on it, and a little mastic varnish in the middle with which you mix the colors; the turpentine is used to thin the mixtures with, or to wash out any part or the whole, if the effect produced is not agreeable, and you can recommence. I fancy I see you buying vermilion, the effect would be so fine, but you will find it black on the screen. The nearest approach I have got is with gamboge and crimson lake, but that is very short of scarlet. You must be very careful of dust or dirt of any kind, keeping your colors scrupulously clean, as every particle of it will adhere to the object and colors. A judicious mixture of the primary colors will produce all the effects you can obtain. Sometimes we paint also on the glass side for clouds, etc. I have tried to avoid all unnecessary detail, but should you require more, I will endeavor to give it in your next. H. D. F."

We also extract the following, which gives further instruction, from the *Illustrated Photographic Almanac* for 1869.

"Now the great difficulty encountered in coloring slides for the lantern is in the shading up. Putting the outlines in, to any one who can draw, is a very simple matter, putting on a flat wash of color is a comparatively simple matter too; but in the shading considerable experience, practice, and skill are requisite to success. Now in this case the outlines are provided, and the shading too, so that we have only to deal with a few flat washes of color. The implements required are first a suitable desk. This, shown



in the above diagram, Fig. 1, is a sloping frame, holding a sheet of glass, and supported drawing-desk fashion. A sheet of

white paper is placed flat on the table under the glass, on which place your photograph. Three or four small sable brushes, each a little larger than the other, should be procured, and what is called a dabber, that is, a camel-hair brush cut down in the way shown by Fig. 2, the edges of which should afterwards be passed through a flame so as to remove any straggling hairs, etc. The pigments used are those called transparent, and should be as powerful as possible; for yellow I prefer gamboge, gallstone, and Indian yellow; for blue, Prussian blue and Indigo; for red, madder and crimson lake; for orange, a combination of the crimson lake and Indian yellow, or burnt sienna; for brown, the madder and Vandyke browns; and for black, Indian ink and lampblack. With these pigments a large variety of other colors may be compounded.

"In laying on the colors you must do so very carefully, so as to preserve them very clear and flat, or even. If the wash wants some slight after-touching to improve it, when dry breathe on it sufficiently to moisten the color; and as it is on a non-absorbent ground, you may, by carrying a flat camel-hair brush lightly over it, make it satisfactory. Always use as large a brush as possible. To soften the edges of tints or render them more even, you may, having first breathed upon them, stipple them by holding the cut-down brush perpendicular to the glass, and moving it lightly with a dabbing motion over the surface. Carefully clean the dabber after you have so used it.

"When the colors are quite dry, carefully and lightly coat them with a thin coating of varnish, carrying it over the colored portions only with a flat varnish brush, and over this you may proceed to color with the same pigments, only using oil colors. This process gives greater richness of color and force of effect than can be obtained if you begin and finish with water-colors, although you can do so if you please. Obtain the colors in oil already mentioned as necessary for water-color painting, with the addition of Italian pink, raw sienna, burnt umber, and Chinese blue; you will also require a little pale drying-oil, some gold size, as a drier; some mastic varnish, spirits of turpentine, and copal varnish.

"The mode of proceeding is the same as I have already described, with this exception, viz., that instead of using a brush for your dabber, you use a pad made of a nice soft little bit of kid leather stuffed with wool."

It will be understood that these instructions do not color the slides for you. Good taste and a knowledge of laying on colors with a brush should be added. The former you must acquire by practice and exercise, and the latter, Mr. Ayres, in his capital work *How to Paint Photographs*, gives very plainly and fully.

THE PHOTOGRAPHIC WORLD.

CARICATURE photographs have been deided as libels in England recently.

M. LIEBER, the talented editor and publisher of the *Moniteur de la Photographie*, is deceased.

THE late exhibition of the London Photographic Society was a grand success in every way.

"WHO discovered the collodion process?" is the subject which the English are now discussing.

ALBERT's process has been patented in this country. He offers to teach it in Munich for 200 thalers.

MR. WOODBURY has sold his patents in Belgium, and further protection has been granted him by the Bavarian government.

MR. GEORGE RESTALL lately exhibited at the exhibition in London, direct prints from plates 37 x 24 inches.

MR. S. BOURNE has found by experience in the Himalayas, that dry plates render distance that is hazy much more satisfactorily than wet.

M. BLANQUART EVRARD has just issued a valuable work entitled *Photography: Its Origins, Progresses, and Transformations*. It is accompanied by a number of examples by various photographic processes.

THE Wothlytype, which came into vogue five or six years ago, and for which permanency was claimed, time has proven to be no less perishable than silver prints.

MR. ROSS has recently made a doublet of 20-inch focus, and covering a field 24 x 30. The front lens alone covers a picture five feet square. He made one some time ago for the Belgium government, the lenses of which were 8½ inches in diameter and 40 inches focus.

At a late meeting of the S. London Society, Mr. Samuel Fry read a very cheering paper on "The Present and Future of Photography," in which he gave vent to the following noble sentiment: "Let us not cease to place before the world the best work we can possibly do; let us carefully consider the points in the pictures of great masters which mainly conduce to the effect, and without slavish imitation, do likewise."

PHOTOGRAPHERS often get caught in the rain, and should always be provided with water-proof covering for their tents and traps. Good Scottish tweed may be made absolutely impervious to rain. "How?" In a bucket of soft water put half a pound of sugar of lead and half a pound of powdered alum; stir this at intervals until it becomes clear, then pour it off into another bucket; immerse the garment therein for twenty-four hours. Hang up to dry without wringing it.

MR. BELLIEZE, in *Le Moniteur*, proposes two modifications of the Taupenot process. First, he points out the advantages which present themselves for the preservation of the collodio-albumenized glasses by treating them with an infusion of tea (water, sugar, and alcohol), after the plates have been sensitized and washed. He gives the plates two successive coats of this infusion. Secondly, he recommends for these plates an alkaline developer.

MR. DUBART gives in the same journal Liesegang's formula for the coffee dry process. The plates are prepared with the following collodion:

Alcohol (36°),	. . .	30 grams.
Iodide of ammonium,	. . . ½ "	
" " strontium,	. . . 1 "	
" " cadmium,	. . . 2½ "	
Bromide of cadmium,	. . . 1 "	

The coffee solution which is used on the prepared plates is composed of 30 grams burnt and ground coffee, and 15 grams

white sugar, which are put in 300 grams of boiling water.

The pyrogallic acid developer contains 2 grams of this salt for each 100 grams of water, to which are added 6 grams of nitrate of silver, and 6 of lemon-juice, dissolved in 100 parts of water.

Les Mondes publishes in full Professor Morton's report on the eclipse of August 7. We translate the introductory remarks of Abbe Moigno:

"The following report is long and of a local and personal interest. Our principal aim is to give credit to the generous volunteers of science of the American expedition, and to publish the glorious result brought about by their co-operation. This expedition in itself is a great example of devotion to science. Prof. Morton, who organized it, and his peaceable companions in arms, can claim the recognition of the scientific world. This is the reason why we considered it our duty to publish the report in full."

THE *Bulletin Belge* publishes the process of Mr. Charles Cros for reproducing photographs in colors. The particulars of this process were published in the December number of the *Philadelphia Photographer*, by Mr. M. Carey Lea. The invention of Mr. Charles Cros is simultaneous and identical with the one of M. Ducos du Hauron.

FROM Herr Otto Buehler, Berlin, we have received his book entitled "Atelier und Apparat des Photographen," a work of 367 pages, giving an exhaustive description of the optical, chemical, and technical apparatus from the present standpoint of the photographic profession. An atlas of 17 folio plates, containing 496 lithograph drawings, accompanies the work.

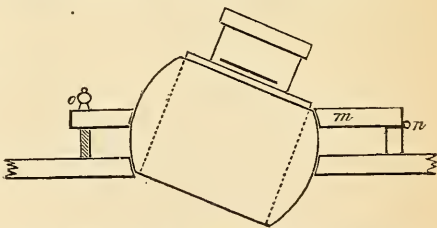
MR. W. L. NOVERRE, in the *News*, recommends the best pale glue as an excellent mountant. It should be dissolved by slow heat—never allowed to boil—and strained through flannel.

THE committee appointed by the Berlin Society for the Promotion of Photography, consisting of Messrs. Petsch and Schneion, make the following report on the "light prints of Ohm and Grossmaur. They acknowledge that the samples of portraits, in

regard to sharpness, depth, and softness, excel anything that has heretofore been brought before the Society. They are of the opinion that this process with some negatives will give better results than a print on albumen paper."—*Mittheilungen*.

MR. H. P. ROBINSON'S "Gull" picture, a copy of which was on exhibition at Boston, in June, has been exciting English photographers for months, and discussed at great length in the journals. Every way in the world has been guessed as to how it was done, and yet nobody knows—but Mr. Robinson.

THE ball and socket joint, so useful in many ways, has been applied to the camera-box to secure a substitute for the swing-back, by a correspondent of the *British Journal*. The flange of the lens is screwed on to a large sphere of wood, the front of which is cut flat to permit of this being done. A hole is cut through the sphere to admit the lens tube passing through it. A hole is now made in the front of the camera, rather smaller than the diameter of the ball or globe, which consequently cannot pass through it. A smaller piece of wood is made with a hole through it of the same size as that in the camera, and is placed outside of the sphere, which is thus kept in its place and works between these two planes as a ball would in a socket, thus:



The outer piece of wood *m* is attached to the camera front by means of another piece to which the former is in turn attached by the hinge *n*. The lens and sphere on which it is mounted may be rotated in any direction, and when once adjusted is prevented from slipping by the screw *o*. To prevent the admission of light, the edges of the holes must be lined with black velvet. The advantages of the swing-back have been made plain in our pages several times, and

this is a very cheap and good substitute, as almost any mechanic can do the job.

In the old days of paper negatives, Sir David Brewster published an article showing forth the advantage of printing through two or three sheets of paper of uniform texture, to secure softness or a mezzotint effect.—*Cor. Ill. Photo.*

To keep the solutions warm in winter, it is recommended in the *British Journal* to place them in glass vessels, and then set them in a solution of sulphuric acid and water. We doubt the expediency of such practice in the dark-room.

WRINKLES AND DODGES.

For retouching negatives I have used only lead pencil, giving the negative a touch by brushing it with emery powder and sal soda ground together very fine. Borax, or any dry alkali, I presume, would answer as well; the alkali has a slightly solvent effect on the varnish, which with the grinding quality of the emery gives the best biting surface of anything I have tried.

M. M. GRISWOLD.

I SAVE my wastes on the *hat* principle suggested in your November number, but I use *three* hats instead of two. The first year I used one; the second two, and the third three. Next year I shall use four, for I find the more old hats I use the more silver I save.

A. J. PERKINS.

I USE fine beeswax to protect my plate-holders from the action of the silver solution. Warm the holder and wax, and rub the latter in with a piece of wash-leather. Thus protected the solution will roll off the holder in drops.

For mounting prints I use equal parts of bonnet glue and gum arabic dissolved in hot water enough to make it as thick as ordinary mucilage. Strain through muslin. When cool it will be about right to use in warm weather. In cold weather it will need to be slightly warmed. A few drops of alcohol will keep it from changing. It dries quickly, and leaves the cards flat and elastic. I also use beeswax for coating my india-rubber bath. I use a swab to rub over

the wax warm. Asphaltum varnish can also be used for the same purpose.

I have been experimenting with a diaphragm, with a *crescent*-shaped opening, by which I shade the sky and the centre of the picture. Would like to hear of other parties trying it, and how they like it.

A. F. CLOUGH.

A QUICK WAY OF PREPARING A SOLUTION OF GOLD.—Put one gold dollar into a 16-ounce bottle, add about $\frac{1}{2}$ ounce aqua regia (1 part nitric and 3 parts muriatic acid) set the bottle in a warm place out of doors to avoid the fumes of the acid; when the gold is dissolved, have ready a saturated solution of bicarbonate of soda filtered, and add slowly until it turns green and curdy, then add a few drops of aqua regia until it turns clear and yellow; filter into a clean 16-ounce bottle, and fill up with water, this will give you about 2 grains of gold to the ounce, and every dollar's worth of this solution will turn as many prints as two dollars worth bought in powder. My experience of six years; try it.

H. H. WOOD.

Aqua regia is an exceedingly dangerous mixture and should only be made in quantity needed for immediate use. It is poison to inhale it.—ED. P. P.

As I very often find in "Wrinkles and Dodges" a receipt which benefits me, I thought I would send the following, and if you think it will be of any benefit to the craft, you can use it as you think best:

To make a paste to mount photographs: Take $\frac{1}{2}$ ounce best white glue, 1 ounce starch, $\frac{1}{2}$ ounce acetic acid, $\frac{1}{2}$ ounce alcohol; soak the glue over night in cold water, then mix the starch in a little water and add the acid and alcohol. Add these to the glue, put in water to make one pint, and boil gently twenty minutes. Always use it a little warm. It will not curl the cards as much as starch paste, and will not injure the glass of the albumen.

C. V. STEVENS.

Acetic acid is very objectionable and unnecessary, and should not be used. It will cause the prints to discolor in a very short time.—ED. P. P.

THE addition of three or four drops of pure carbolic acid to a pint of solution, will,

it is stated, arrest the tendency to form scum on the printing bath, will check discoloration, and retard the tendency of the paper to turn brown on keeping a little time after sensitizing.

O'NEIL'S FORMULA FOR COLLODION.

Ether, 6 ounces.
 Some Brains.
 Alcohol, 6 "
 Some more Brains.
 Cotton, 72 grains.
 Some Iodide.
 A little more Brains.
 Some Bromides and a large quantity
 of Brains.

After the above is all dissolved and settled, add enough brains to make good negatives.

The above formula was given to a novice yesterday by Mr. Hugh O'Neil, the celebrated manipulator of the establishment of Fredericks & O'Neil, of New York.—ONE IN A FOG.

VOICES FROM THE CRAFT.

The following is a copy of a circular which has been sent us by several of our subscribers, with the insinuation that it is one of those humbugs which our readers should be cautioned against.

ONE MORE STEP TAKEN IN THE SCIENCE OF PICTURE MAKING.

EUREKA! EUREKA!

MY BROTHER ARTIST: I have discovered something new, just as sure as you and I are born! I will tell you. It is a picture beautiful beyond description. My ideal of a beautiful picture was never fully realized till now. They are case pictures, and can be made and put up *almost* as rapidly as common plate pictures in cases, and I sell them at just double the price.

Everybody that sees them will have them.

I will send you one of those pictures in a good case, such as I sell for \$2.50, on the receipt by letter of \$1.50. Then if you like the picture and wish to introduce them to your customers, write me and I will send you the process for a reasonable compensation. Any body can produce them that make a good ambrotype.

Now if you want to see a nice new thing for the trifling sum of one dollar and fifty cents, then "*pitch in.*" It is no humbug. I have been in the picture business for twenty years,

and consequently am no novice in photographic chemistry.

If you do not wish to invest, then please hand this circular to some brother artist in your town and oblige,

Yours, JOHN SYPHERS,
 Tonica, Ill.

I will send the picture per express.

Mr. Syphers was written for further information by a party in this city who desired not to invest until it was obtained, and received for answer that the "Eureka" is "a picture taken on glass, clear, transparent, and beautiful. A beautiful border around the picture with soft outline and sharp contrast. It pleases everybody. You will not begrudge your \$1 50. The silver is crystallized after the picture is taken." This tempting reply induced our correspondent to send Mr. Syphers a post office order for \$1.50 as an investment, but he is still minus the promised picture, and begins to fear he has been too ready to "pitch in." Let our readers take warning from his example. Further in our next.

GENEVA, Dec. 9th, 1869.

MR. EDITOR: For the good of the fraternity, I should like to suggest to those making negatives to be used in illustrating the Journal, that they give not only the formula by which they were made, but also, in the case of portraits, the weather in which they were taken, whether sunny or cloudy; whether the glass composing the sky and side-light be clear, ground, frosted, or curtained; the exact length of exposure; the size and make of lens used, also size of diaphragm; whether side-screens or reflectors were used, and if so, at what distance from the sitter; whether the background used be woollen or painted, and how far back of sitter; and whether the collodion used was thick or thin. It seems to me if such *practical details* were given—which might easily be done in a very few words—every operator would then be in a much better condition to compare intelligently his own work with that made by others, and to profit thereby. I think if these suggestions were carried out, that this feature of the Journal would be, of itself, enough to commend it to every practical operator in the country.

What say you, brother photographers?

Respectfully, J. G. VAIL.

SALAD.

THE holiday trade was pretty good.

DIRTY fingers are enemies to good work.

YOU should always work your chemicals stronger in cold weather than in warm.

PLEASE read our advertisement of books. Now is the time to read and study up.

THE gold medal prize picture, by Mr. Griswold, "Blowing Bubbles," will grace our next issue.

WE shall begin a new series of articles on skylights and their construction in our next number.

MR. RYDER's double picture, one from negative retouched and one from negative untouched, will appear in our March number.

PLEASE read our list of premiums, and help us place the *Philadelphia Photographer* in the hands of every photographer in the land.

MATERNAL photographs are so fashionable in Paris that the more enterprising photographers there keep a baby as one of their accessories. So says the *Court Journal*.

A WOMAN cleaning a fish in France recently, declared she discovered a photograph of the fisherman in one of the eyes of the fish. Most too fish-eye a story to believe.

"HOW TO PAINT PHOTOGRAPHS," second edition, three-fourths exhausted, and gives great satisfaction to all. You can make enough on the first picture you color to pay for it.

MOsaICS for 1870 sells wonderfully. Quite two thousand four hundred copies are sold at this writing, and the book is not thirty days out of press.

THE Treasurer of the National Photographic Association has notified the members to pay their annual dues, due last June. Please give it attention and canvas for new members.

AN Oregon girl of the period entered a photograph establishment recently, and asked if they "had any sun pearls." She was answered in the affirmative, and shown some porcelain pictures which are called "sun pearls" out West. She blushed and replied: "Laws me! Do you call them sun pearls? Why them ain't what I wanted. I want some o' that stuff which city ladies put on their faces to make their skin slick." She was informed that such articles were usually found in a drug store, and went off considerably enlightened.

By the aid of photography, the feeblest motions of the most delicately-poised machinery are now recorded in the observatories of Europe. By the reflection of light upon an ivory scale, from a small mirror on what may be termed the armature of the instrument, all communications by the Atlantic and French cables are received. Each movement of this tiny glass causes the light reflected from it to pass to the right or left on the ivory scale, the motions being indicative of the letters, which the operator records. Photography will soon be applied for that purpose too, most likely.

Editor's Table.

ANSWERS TO CORRESPONDENTS.—We have frequently signified our willingness to assist our readers whenever they find trouble in their manipulations, and as very many can testify, we have done this by private letter, on account of our issuing only once a month; we propose to repeat our offer for the new year, but as our circulation has grown so vastly and correspondence with it, that duty has become a severe tax upon our time, so we shall answer all such correspondence in *this column* hereafter, unless the case seems to require, or the parties of ne-

cessity request an answer by mail. Of the latter, the fact of their sending a stamp for reply shall be our guide. Questions to be answered herein, must invariably be in our hands by the 18th of the month. We hope you will ask us whatever you want to know, and we will answer cheerfully to the best of our ability.

MR. WILLIAM DELIUS, Waterbury, Conn., has sent us some very interesting photolithographs by a process similar to Albert's, which compare very favorably with Albert's results. Mr. De-

lins is able to print in any color, on any kind of paper, and to make his transfer on glass or metal. With more experience in printing, Mr. Delius will prove a formidable rival to the Albert process in this country. Those interested would do well to address him.

IN Mr. H. J. Newton's article on the *Tea* process, in *Mosaics* for 1870, he is made to say "put *more* gold," &c., instead of "put *some* gold," &c. Please note the correction.

WE are indebted to Mr. Robert Oppenheim, Berlin, Prussia, for Herr Remele's excellent little Manual of Landscape Photography, and for a copy of Grasshof's Manual of Retouching and Coloring Photographs. Those who can read German will find them both very valuable works.

"THE CHEMICAL FORCES," HEAT, LIGHT, AND ELECTRICITY, with their applications to the expansion, liquefaction, and vaporization of solids; the steam engine; photography; spectrum analysis; electroplating, etc., etc.: an introduction to chemical physics, by T. Ruggles Pynchon, M.A., Scovill Professor of Chemistry and the Natural Sciences, Trinity College, Hartford. Published by O. D. Case & Co., Hartford, Conn., 1870, one vol., pp. 534. Chemistry is so closely allied with subjects of which Prof. Pynchon so ably and clearly treats in his admirable work, that one must not hope for a thorough knowledge of it without first having a perfect understanding of the three great chemical forces,—such an understanding as is here placed within our reach. The author has cleared up many obscure points in a clear and connected manner, which heretofore mystified the chemical student greatly, thus showing the necessity of beginning such study at the beginning, to be fully informed. His style is concise and plain, and no one could elucidate with more clearness than he does. We commend his work to such of our readers as desire to improve themselves in the direction therein treated upon. It contains 269 illustrations, a copious index, and a long list of experiments with directions for conducting them. The publishers have also done their part well. The illustrations and general get-up are fine.

THOSE who anticipate visiting Cleveland during the June Exhibition meeting of the National Photographic Association, will be glad to know that we have already arranged for a free passage *one way* for them on the line of the Pennsylvania Central and Philadelphia and Erie Railways, and hope to do so on all roads in the United States.

OUR PUBLICATIONS.—It is a great pleasure to us and cheers us greatly on in our work, to receive so many genuine good wishes and testimonials to the usefulness of our publications, as we are now daily made happy with. The following are a few:

December 4.

MR. EDITOR: The *Photographer* for December is at hand, and as usual, interesting.

I see a notice of "Subscription Expired"—this is all right; please renew it. You need not feel badly to give such notice. Every man has had his money's worth twice over. I only feel badly as it reminds me of the flight of time, when I must go hence, where there is no more photographing to be done.

I think with your prospectus for the New Year, you need fear no falling off. The pictures alone will be worth more than the money.

Wishing you every success,

I am, yours truly,

E. L. ALLEN.

24 Temple Place, Boston.

BARNESVILLE, GA., Dec. 9th, 1869.

Eds. Philadelphia Photographer:

Please find inclosed fifty cents for *Mosaics*, 1870, and while I write, you will please accept my most *heartfelt and sincere thanks* for your invaluable journal, the last number of which has just reached me, containing a complete index to the whole volume; it shall be bound, for I consider it worth more than tenfold what it has cost. One year ago I was doing but ordinary work; but now my work will compare favorably with any in the State.

Respectfully and fraternally yours,

J. W. HURT, Photographer.

I WONDER why we see so many poor photographs, after having everything so plainly pointed out as it is in *Mosaics* for 1870.

E. KILBURN,

Littleton, N. H.

WITHOUT exaggeration, the article on "Glass Cleaning" is worth four times the price of the book—*Mosaics*, 1870.

D. C. HAWKINS,

Sheboygan, Wis.

CHICAGO, ILL., Nov 29th, 1869.

DEAR SIR:—It is my pleasure at this early date to possess a copy of your "Photographic *Mosaics*" for 1870. I simply wish to say that I consider it by far the most valuable annual you have yet published, and a work that should be in the hands of every photographer, who has the least desire to aspire to do good work, not only photographically, but artistically; in fact, even those old in the profession may receive new

inspiration by a perusal of its pages. Especially may the articles by Kurtz, Baker, Notman, Kent, Robinson, the Editor, and others, be read with interest and profit, *for they are sound, valuable, and practical.*

Respectfully, yours,
JNO. CARBUTT.

I LIKE "How to Paint Photographs" very much, and think it will do any photographer good.

FRED. C. LOW,
Cambridge, Mass.

DEAR SIR:

I cannot tell when I have enjoyed myself better than in the perusal of Mr. Robinson's book, "Pictorial Effect in Photography." Readable, reliable, and evidently written by one that has the good of our profession thoroughly at heart. The articles upon posing, lighting, accessories and backgrounds are worth singly the price of the book. The illustrations are superb. As to the Mosaics, I received it only this morning. And although, I have been enabled to give it only a cursory glance, the few articles that I have read, convince me that it is fully up to, if not beyond the standard of former years.

Respectfully, yours,
CHARLES STAFFORD.

NOTHING can be more gratifying to us than to know that our books are *useful*.

In our last issue, Messrs. Charles Cooper & Co., Chemists, 154 Chatham Street, New York, cautioned our readers against an impostor named G. W. Robinson, who represented himself as their agent, and collected wastes from photographers in their name. Since then he has adopted as his *alias* the name of *Radeliffe*. A party in this city has also suffered by him, and has put his case in the hands of the detectives. "A word to the wise is sufficient."

WE have received some very elegant negatives from Messrs. Loescher & Petsch, Berlin, Prussia, which are being printed for a future issue of our journal. Also, negatives from M. Salomon.

PROF. MORTON recently delivered his admirable lectures on Light to crowded and delighted audiences, at the Peabody Institute, Baltimore.

THE extensive and beautiful photograph rooms of Mr. W. M. Knight, Buffalo, N. Y., were entirely destroyed by fire on the evening of December 12th.

MESSRS. WEARN & HIX, Columbia, S. C., and Mr. D. J. Ryan, Savannah, Ga., have both received flattering awards for their work at exhibitions held in their cities recently. We rejoice with them.

MR. G. A. DENVERITT, a photographic colorist, committed suicide by swallowing cyanide in solution at 140 Washington Street, Boston, December 9th. He died in ten minutes after swallowing the poison.

MR. FRED. C. LOWE, East Cambridge, Mass., is making a collection of photographs of the remaining members of the 1st Maine Artillery Regiment, in which he served during the war—130 in all.

MESSRS. J. W. & J. S. MOULTON, of Salem, Mass., have been appointed Mr. Proctor's agents for his night photograph apparatus, for the States of Ohio, Indiana, Illinois, Kentucky, Tennessee, Michigan, Missouri, Wisconsin, Minnesota, Iowa, and Kansas.

MR. CLOUGH (Orford, N. H.), is one of our active subscribers, to whom we are indebted for many "Dodges and Wrinkles." He has sent us several interesting Stereographs of wood and mountain scenery, and among them one or two of Moosilauke Mountain. A mutual friend, signing himself "Amateur," has also favored us with the same view and the notice below. Thanks to them both:

PERILOUS ASCENT OF MOOSILAULKE MOUNTAIN. Prof. Huntington, the Assistant State Geologist, had a serious experience in getting to the summit of Moosilauke Mountain, in Warren, where, in company with Mr. Amos F. Clough, a photographer, he proposes to spend the winter. The professor was two days in making the ascent, and froze both of his feet. The snow was four feet deep on a level, and some of the drifts were eighteen feet deep. There is a strongly built and comparatively comfortable house on the mountain top, and the two gentlemen are hoping to enjoy their bleak winter home.

WE have from Messrs. French & Sawyer, Keene, N. H., several photographs of their outdoor developing tent, which we shall describe soon. We have also received several beautiful views from Mr. Vernon Royle, Paterson, N. J.; cards from retouched negatives of much excellence, from Mr. J. Inglis, Montreal; prints from Messrs. E. & M. Garrett, Wilmington, Del., E. E. Henry, Leavenworth, Kansas, W. L. Gill, Lancaster, Pa. J. Lee Knight, Topeka, Kansas, of an amusing drawing called "Droughty Kansas," and from M. K. Marshall, Circleville, O., a whole-size photograph of Mrs. Tabitha McGath, who was born March 12th, A.D. 1761. She is right sprightly-looking yet.





M. M. GRISWOLD,

Boston Public Library.

COLUMBUS, O.

THE PRIZE "GENRE" PICTURE.

T H E

Philadelphia Photographer.

Vol. VII.

FEBRUARY, 1870.

No. 74.

Entered, according to Act of Congress, in the year 1870,
By BENEFMAN & WILSON,

In the Clerk's office of the District Court of the United States for the Eastern District of Pennsylvania.

SECOND ANNUAL EXHIBITION OF THE National Photographic Association of the United States.

TO FOREIGN EXHIBITORS.

THE Second Annual Exhibition of the *National Photographic Association* of the United States, will be held in Cleveland, Ohio, beginning Tuesday, June 2d, 1870.

Ample provision will be made for foreign exhibitors this year, and *no charge will be made for space.*

Effort is being made to secure the entrance of foreign work free from duty. The freight, however, must be prepaid, unless in such cases where the pictures are not to be returned, then the Secretary or Executive Committee will undertake their sale and deduct the freight from the proceeds. Foreign parcels should all be distinctly marked as follows:

NATIONAL PHOTO. EXHIBITION,
Care Edward L. Wilson, Secretary,
Philadelphia, Pa., U. S. A.,
Via Boston Steamship Line.

To insure their arrival in time, packages should not be sent later than April 15th. Please be particular to ship to *Boston* as directed.

A cordial invitation is given to foreign artists to participate in this Exhibition, and every attention will be given them.

Parties desiring space will please make their wants known as soon as possible.

For further particulars, please address the Secretary.

J. W. BLACK, J. CREMER,
DAVID BENDANN, J. F. RYDER,
W. C. NORTH,
Executive Committee.

EDWARD L. WILSON,
Secretary, Philadelphia, Pa.

Our foreign exchanges would oblige us by copying the above.

GREEN GLASS IN THE DARK-ROOM.

BY M. CAREY LEA.

SOME little time since I saw a suggestion (I regret that I cannot now recall where), that green glass might take the place of yellow in the dark-room. I did not, however, pay any attention to it, until another circumstance seemed to indicate that such a substitution might be useful. In the color processes of Ducos du Hauron, and of Cros, camera exposures are made in succession through glass of different colors, purple, yellow, and green, and it was mentioned in the description that it was found that the time of exposure was longer when the green glass was interposed than with the yellow. This seemed to indicate that the non-actinic

influence of green glass might be very useful in photographic operations.

Therefore, I procured some green glass and gave it a trial. The result was that I at once and entirely discarded the yellow, and from that day (some months back) to this, I have used nothing else.

I was not disposed to publish the matter, and advise others to try it, until my experience should fully warrant me in doing so. But I have prepared and developed hundreds of plates, and, as I do not ever expect to work in yellow light again, I feel that I shall do a service in recommending this mode of working. The difference in fatigue to the eyes is most important. Every one knows how trying to the eye is a reddish-yellow light, and how soft a green one; and, if the latter be a sufficient protection to the plate, as it proves itself, there should be no hesitation in making the change.

My trials have been made with artificial light, gas-light only, as I generally prefer to use it, even when working in the daytime. But I always allow myself plenty of light. I think, indeed, that the illumination produced by any given flame is, perhaps, reduced more by the green glass than by the yellow. The difference, however, is not great, and it is easy to make the flame a little stronger. I use an Argand gas-burner turned fully on—give myself light enough to read writing, labels, etc., with entire facility, and find that I can do so safely.

Some care needs to be taken in the selection of the glass, and neither the lightest nor the deepest commercial green glass is suitable, but an intermediate shade. It should not be a bluish-green, but a full, clear green. I attempted at one time to obtain green chimneys for gas burners, but those that I could meet were both too blue a green, and too transparent.

This fact, that green glass affords adequate protection to sensitive films, has an additional interest to me from the fact that it confirms the position that I have always maintained, *that the alleged sensibility of bromide of silver to the green rays had no practical value.* I have always held that the advantages found in the use of a bromide lay in its greater sensitiveness to weak radiations of light. That, therefore, it was

useful in rendering foliage, *not* from any useful amount of sensitiveness to the green color, but by reason of its being more easily acted upon by the weak light sent back from the surfaces of the leaves, that is, weak reflected white light.

Now, my experience in the dark-room fully confirms this view. The plates that I have worked with, have been almost exclusive chloro-bromide and collodio-bromide dry plates; in the latter the film consisted entirely, and, in the former, almost entirely of bromide of silver. If, therefore, this substance had any sensitiveness to green light worth considering practically, my plates must have fogged; whereas, I have had immunity from any such trouble. It would, perhaps, be difficult to imagine any stronger proof than that which is here afforded. My plates have often lain soaking in clear water in an open porcelain pan, within three feet of a bright Argand burner turned fully on, with no protection except the green glass, and have remained so for ten or fifteen minutes together, without suffering in the least: a tolerably severe test. Of course, if too transparent, a piece of glass be used, the security cannot be expected to be complete; but it is easy to find glass that will cut off the active rays, and yet let through an abundant illumination.

As to the arrangement, of course, any means that are good for supporting a yellow-glass pane will answer for the green. The following is a convenient plan for either:

Let a carpenter take a piece of wood about 12 inches by 6, and at the narrow ends fasten on two uprights 16 inches long. A thin strip is to be nailed on the front edge of each of the uprights; this keeps the glass which slides down immediately behind these strips, from falling forwards. A screw put in through each upright behind the glass keeps it from falling back. The upright not extending quite as far forward as the bottom, enables the glass to rest on the latter.

The uprights may be rendered secure by a cross-piece at the top or across the back. But in the plan which I first used, the cross-piece was much in the way of the chimney.

I, therefore, substituted the following arrangement:

Two square pieces of wood, with bevelled edges were glued and screwed in at the lower corners, one edge of each resting on the bottom and one on the upright. This gives considerable firmness, which is increased by nailing two other triangles against the outside lower corners. The uprights are thus kept firmly in their places without any incumbrance to the upper part of the frame. And as the glass moves easily between the outside strips and the screws inside, it is not liable to be broken by any warping of the wood, and is easily removed when it needs cleaning.

The size above described carries a pane 12 inches wide and 16 high, which gives a satisfactory amount of light. The two uprights shade the spaces to the right and left of the light, and the strips which confine the plate in front, prevent any stray beams from escaping between the glass and the supporting uprights.

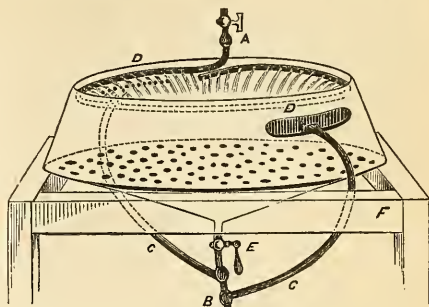
Before closing, I desire again to call attention to the importance of saving the eyes by working in an agreeable light. This is especially important in coating the plates. To watch the wave of collodion and manage it easily, one must catch the reflection of the light on its surface; and, to do this, the light must be directly in front, and straight before the eyes. Any light in this position tends to fatigue the sight, and doubly so when the light is of a glaring yellowish shade.

IMPROVED PHOTOGRAPH WASHING TANK.

BY J. CARBUTT.

In the January No. of the *Philadelphia Photographer* for 1867, was given a drawing of a washing tank, by Mr. J. M. Young. To test its merits I had one made, and found one or two points about it I thought could be improved upon. In the tank described by Mr. Young, the feed-pipe lies on the bottom of the tank, and the water was drawn off by a syphon, which caused many of the prints to be destroyed by the suction of the syphon as they lie on the perforated bottom. After trying several modi-

fications, I adopted the plan as shown in the accompanying drawing. A is the sup-



ply-pipe and tap. This supply-pipe, A, runs around the whole tank near the top, and is perforated towards the inside, with small holes, through which the water gushes in all directions. The water, therefore, keeps up a constant motion—a sort of a mild whirlpool—among the prints, round and round, and yet without injury to them. B is the waste-pipe; C C, waste pipes from the overflows D, D; E is a large tap to regulate the discharge of the waste; F, a wooden frame 24 inches high, supporting the tank. The tank is made of galvanized iron, of the shape shown in the diagram, and is 9 inches deep on the sides, 30 inches across the top, and 36 inches across the bottom at the widest part. The perforated bottom is 30 inches across, and soldered fast all around. The bottom of the tank slopes to the waste-pipe, leaving a space of 3 inches in the middle, from the perforated bottom to the mouth of the waste-pipe. The action of the tank is thus explained: Let in the water by means of the supply-pipe, A, until the water reaches the overflow, D; now put in the prints. The tap, A, should then be turned on only sufficient to keep the prints nicely in motion, then turn the tap E, to let the water run out a trifle slower than it enters at A. The prints are kept in constant motion, and the hypo, as fast as eliminated, is carried out at the bottom, the waste overflow being independent of the tap, E. I have always made it a point to see that my prints are fixed in fresh hypo and well washed. After more than two years' use of this tank, I prefer it to either the ordinary overflow or syphon tank.

Judging from the very beautiful specimen

of *photo-relief printing* presented to your readers this month, in which neither silver, gold, nor hypo enters its composition, one cannot help feeling that the days of silver printing are numbered, but, as long as silver prints are made, I think those producing them cannot take too much pains to give them all the durability possible.

THE ALBERT PROCESS.

The Albert process, of which our readers have heard so much, has been patented in this country, and we make the following extracts from the specifications :

"A piece of plate-glass is cleaned with alcohol, and flowed with a mixture of albumen, gelatine, and bichromate of ammonia, and left horizontal to dry; when dry, it is laid with its coated side on a dark surface, and exposed, for a short time, to the light from the side upon which there is no film. As chrome-gelatine becomes insoluble through the agency of light, this will prevent the moisture to which the plate is afterward subjected from penetrating to the glass, and consequently the film will remain firmly attached thereto; and, in order that the second film may adhere to the first, it is necessary to expose it from the back, and to protect the face with a dark underlayer, which absorbs the penetrating rays as much as possible, so that it may retain its adhesive properties sufficiently to secure the second film on the surface of the first, and thus both become firmly united to the glass.

"After this exposure, the plate is laid for a half hour in water, and then set aside to dry. These manipulations can be performed months in advance of using, if desired.

"The second step of the process consists in again coating the plate with the proper sensitive film, composed of isinglass, gelatine, and chromate or bichromate of ammonium, and set aside to dry, as before. When dry, the plate is ready to receive the picture, and is placed in the pressure-frame on a negative, and exposed to the light, in the same manner as is done with an albumen print, except that the action of the light is watched from the back, and the plate removed at the proper moment. It is then washed in water, to remove all unchanged chromates,

and to harden the film, is treated with chrome alum, chlorine water, or any other coagulating material, and set aside to dry. When dry, it is printed from, in the usual lithographic manner, upon a press adapted to that purpose.

"The essential principle of the invention consists in subjecting the first film to the action of light, to render it insoluble next the surface of the glass, while its outer surface remains adhesive, so as to unite with the second film, and, if these conditions are observed, both the first and second films will permit the use of other materials, such as glue, gum, dextrine, or almost any adhesive or gelatinous substance, as well as any of the salts of chromium with more or less success."

A NOVELTY.

BY DAVID DUNCAN.

I HAVE seen photographic productions, and good ones too, from nearly every clime under the sun, from Parisian delicacy to Chinese whitewash, but I must candidly confess that American photographs are the very best—speaking technically, the cleanest, the largest, the most brilliant. Though many pictures issued from small establishments are "chalky" and inartistic, it will not, in my opinion, long be so; for, while Americans (photographers included), to use their own words, are a "practical people," they are as sentimental as others and decidedly artistic. Much photographic art, at present, is latent, but "wait a wee." It is well for all engaged in our profession to thoroughly comprehend and master its many details; the patrons of the art have not yet chosen definitely and permanently the best style of picture; its devotees have not yet decided upon the best process and simplest *modus operandi*. Novelties are constantly springing up, novelties worthy of attention. Many are "born to blush unseen," nevertheless there remain some which COMMAND a "hearing;" they *must* be PHOTOGRAPHED. It is to a novelty I would direct the attention of my respected American brethren, which I trust will meet their expectations.

In the *Photographic News*, December 3d, 1869, is an article by a gentleman under the

nom de plume of "Ennel," on "glass-houses and lighting," which contains the description of a gallery admirably adapted for this country. I will make an extract. He says:

"I want a glass-house which shall be perfectly water-tight, warm in winter, cool in summer, in which neither morning nor evening sun shall annoy; which shall have plenty of light, and that light most easily managed; and which shall be easily ventilated, and on the glass of which dust shall not accumulate more than on common windows, nor, be removable with greater difficulty. Here is the model. It shows, at a glance, what many diagrams would fail to do.

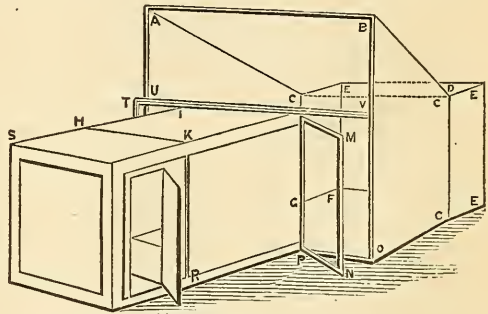
"The whole may be solid masonry, wood, iron, or what not. The source of light is entirely from the front, and the top-front light and the side lights are amply supplied by reflection from the roof and sides sloping respectively upward and outward. The angle here adopted may not be the best—possibly 40° or 45° might be better, which must be proved by experiment—but this model is only to serve as an illustration of the idea.

"The scale is half an inch to a foot, so that we have a space for the sitter, E E', twelve feet wide; E F, eight feet high; G F, five feet deep. The floor, from this rectangular space (from the line G G') to the tunnel, measures twelve feet in length; and transversely, at the north end, along the front of the tunnel, viz., from O to the opposite corner, like the parallel line A B, eighteen feet. The height of the walls at the north end, B O, is fourteen feet. The dimensions of the tunnel are: K L, ten feet; I L, eight feet; L P, eight feet; so that an area of direct light, viz., above and on the sides of the tunnel, one hundred and eighty-eight square feet (or, after all deductions, say one hundred and eighty feet) remain available; but this amount may be increased by reducing the dimensions of the tunnel in width and height, or by enlarging the angles of the sloping planes, or both. The top window, A B U V, is to swing like a toilet-glass (for ventilation), and to be backed by a curtain nine feet

wide, movable by two balancing-weights, as are also the two glass-doors or French windows, L M P N and T, to regulate the shading.

"Now fancy a room with a window eight feet by ten, facing the north, and a model opposite it at the distance of thirteen or fourteen feet. The lighting is splendid. But now add the sloping walls and ceiling, with their reflecting surfaces. Can you imagine a softer light?"

It is unnecessary for me to occupy space in redescribing the form of studio recommended. I must leave it to my reader's judgment, experiences, and reflection. I do not see why the most excellent results should not be obtained in such a gallery.



A F, glass-house; A B U V, swing window; L M P N and T, French windows; H I L K, tunnel; S R, dark-room.

How cool it would be in the height of summer, compared with many of the "hot-houses" now in existence. The blinds, how easily and quickly arranged. Supposing the top window, A B U V, to be facing the north, direct sunlight, the enemy of successful portraiture, could never enter; the light must, therefore, all the year round, be as uniform as it could be possible to obtain. The originator further remarks:

"But oh, the front light! you will all cry. I know very well that the majority, if not all photographers, have set their faces against front light only, not in the proper, *i. e.*, the literal sense. Why? I know not the reason. *Prima facie*, I should say front light ought to be predominant, seeing that we have to copy the front of the model, or that portion which fronts the lens. I say predominant, for we want front, top,

and side lights, also to help make up the modelling."

It will be seen that Ennel does not recommend lighting the model by DIRECT front light, but by front, top, and side light, obtainable (in the form of studio recommended) by the curtains.

Every portraitist of experience knows very well that the best results are got in diffused light, not direct, and that is obtained from the front, top, and side lights, or the farthest CORNER through which the light is admitted, no matter whether the gallery has a flat, or span, or side sloping roof. Direct top light is wrong, likewise direct side light. In studios built with side-light only the best, or, rather, the most pleasing pictures are made by placing the model on one side of the background, the farthest from the source of light; those with top-light only, by shading the sitter over the head. Before concluding, it would be well to quote some remarks of a writer signing himself "Moderator," in a subsequent number of the *Photographic News*. He says: "There is one of Ennel's arguments rather amusing: 'We take sitters from the front, *therefore the front SHOULD BE THE PREDOMINANT LIGHT.*' I should put it thus: THEREFORE we want the predominant light from the side. People do not take a landscape or a building with the sun plump behind their camera."

I say that depends upon circumstances; it is convenient, and I speak from much experience, at times to get the sun "plump behind the camera." Be it also remembered, that "Ennel" has not recommended sunlight nor direct front light, and a landscape or a building is not a portrait.

I trust this may be interesting. I believe the above mode of lighting to be the very thing for this country. Think for yourselves, ye votaries of the photographic art! The "Ennel" studio is novel, deserving popularity.

If you can, let your dark-closet be roomy, and be sure to have nothing in it not actually needed there. No admittance for dirt or trash.

Winter Photography, or Printing by Development.

FOR BEGINNERS AND ALSO FOR PRACTICAL PHOTOGRAPHERS.

BY PROF. J. TOWLER, M.D.

BEGINNERS have to learn, but older photographers know, to their annoyance, that, in the dark and short days of winter, printing on paper is sometimes a very slow and tedious operation, and sometimes almost impossible. Now, I am going to teach you how to alleviate this annoyance and to give you a remedy for the evil. There is probably nothing new in the process, if analyzed critically, for the different parts were all known, and it remained simply to put them together, to synthesize the elements and thus compound a practical process.

It is better to begin with prints on plain paper. I use Marion's plain paper, which can be had of any of the stockdealers. You first ascertain which is the right side of the paper and which the wrong side, by the method I gave you some time ago in reference to the albumenizing of the sheets. Mark the back of each sheet so as to know it after the sheet has been sensitized.

SALTING SOLUTION FOR THIS PROCESS.

Water,	. . . . .	8 ounces.
Chloride of Ammonium,	. . . . .	40 grains.
Gelatine,	. . . . .	10 "
Citric Acid,	. . . . .	40 "
Carbonate of Soda,	. . . . .	40 "

Filter the solution.

Let the gelatine soak in 2 ounces of the water for a few hours, then heat the mixture until the gelatine dissolves, and add it to the rest. It is better not to pulverize the citric acid, otherwise the effervescence might be troublesome and cause a loss of the materials.

Let the paper float (right side downwards) on this salting solution for about two minutes, taking care to remove all bubbles from the surface of the paper. Hang it up to dry spontaneously, and afterwards pack away in a portfolio. The paper has to be sensitized before you can print with it. I use the following silver solution for this purpose, essentially the same as recommended by Dr. M. Carey Lea:

SILVER SOLUTION.

Distilled or Rain Water, . . 8 ounces.
 Nitrate of Silver, . . . 4 drachms.
 Tartaric Acid, . . . 8 scruples.

If there is a white deposit formed, filter the solution and add nitrate of silver to make up for the loss. (In my own laboratory I reduce the white deposit into pure silver by means of zinc and dilute sulphuric acid, and afterwards reconvert the washed silver into the nitrate, which is added to the stock solution. This is the work of a few minutes only.)

Float the salted paper in the usual way upon this bath for about two minutes, and then hang it up in the dark-room to dry. Paper so sensitized will keep for a long time.

EXPOSURE.

Place the paper over the negative in the usual way and expose for a minute (or two during dark weather), that is, until you perceive through the negative glass that there is a slight change of color. You may expose longer if you choose, but absolutely this is unnecessary. An impression has already been made on the paper, but, like the impression on sensitized collodion, it is latent, so to say, and it remains now to make the latent impression visible. This can be done in a very delightful manner, and various tones can be obtained intermediate between red and black, and without the intervention of any gold; notwithstanding all this, the pictures may be toned with gold, if you are not satisfied with the results.

Make the stock solutions as follows:

No. 1.

ACETATE OF LEAD.

Acetate of Lead, . . . 2 drachms.
 Water, . . . 4 ounces.
 Acetic Acid, drop by drop, to clear the solution.

No. 2.

GALLIC ACID.

Gallie Acid, . . . 16 grains.
 Distilled or Rain Water, . . 8 ounces.

Apply heat to the mixture, and the acid soon dissolves.

For present use we require two solutions, as follows:

No. 1.

FOR THE BATH (DR. M. CAREY LEA'S).

Water, . . . 2 ounces.
 Acetate of Lead Solution, 24 minims.
 Gallie Acid Solution, . . 2 drachms.
 Acetic Acid, sufficient to dissolve the white deposit.

This is placed in a suitable dish, and the exposed print is placed in it, taking care that it is completely covered and free from bubbles.

No. 2.

INTENSIFIER OR DEVELOPER.

Gallie Acid Solution, . . 4 drachms.
 Acetate of Lead Solution, 5 drops.
 Acetic Acid, about . . 15 "
 or sufficient to dissolve the deposit.

Take the print out of the dish as soon as it has been thoroughly soaked, and place it on a plate-glass, and, holding the glass over the stove (in the dark-room, of course), pour the intensifier or developer upon the print and off again, just as you would do if you were developing a negative. The picture will slowly increase in strength, and pass from light brick-red through gradual stages to an intense black. The heat of the fire in the stove is a great aid in this development. Hold the plate but a few inches above the stove (an iron plate heated by a lamp will do just as well). You will be surprised with what beauty the picture gradually advances. Do not be impatient. Whenever the picture satisfies you, you can stop the further development by washing the print; after which it is fixed in hyposulphite of soda in the usual manner.

This mode of development proceeds to the black tone. If you desire pictures which are afterwards to be toned in a gold solution, we must keep more within the limits of the red tone. For this purpose we use the following developer:

No. 3.

DEVELOPER.

Gallie Acid Solution, . . 4 drachms.
 Silver Solution (from the bath), . . . 5 drops.
 Acetic Acid, . . . 5 "

Develop with this as before, over the stove, until the picture is as intense as you

want it, then wash well, tone, and fix as usual. But we can get the gold tone without the use of gold, as follows:

No. 4.

DEVELOPER.

Gallic Acid Solution, .	4 drachms.
Acetate of Lead " .	5 drops.
Acetic Acid, .	sufficient, etc.
Nitrate of Silver Solution, . . .	5 drops.

Develop as before, and stop as soon as the print is a little darker than you want it. Wash and fix.

Prints obtained in this way are not far inferior to those printed by the sun; the whites, too, are thoroughly preserved, owing to the presence of the tartaric acid in the sensitizer.

Finally, when the prints are dry, you can coat them with plain collodion, which gives them the appearance of albumen prints.

"ENSLAVING A SUNBEAM."

THE *Woodburytype* in our last number has elicited the greatest admiration and praise. It came like a great surprise upon many, as few had any idea that photo-mechanical printing had been carried to anything like such perfection.

We extract below, from a foreign contemporary, a paper describing the establishment in England where the picture alluded to above was printed.

In our next issue we will give a description of a visit to Messrs. Goupil & Co's. establishment in Paris, where the Woodbury process is also worked on an immense scale.

In the following issue or soon after, we hope to describe the *American Photographic Relief Printing Establishment*, Mr. Woodbury having sold his patent for this country to Mr. J. Carbutt, of Chicago, and others. The purchasers are arranging to work the process as speedily as possible, but as they are not yet prepared to answer any questions concerning it, desire that they should not be questioned at present. Our readers shall have some of the first prints made. That much we are promised. The *first* print made in this country has been sent to us

by Mr. Carbutt, and we pronounce it fully equal to the ones in our last issue, though the printer has as yet had but few lessons. We now proceed with the paper which is entitled

"ENSLAVING A SUNBEAM."

"Long ago we used to regard the term 'trapping of sunbeams' in the light of a pleasant gleam of literary metaphor, and wonder what could be done with the ethereal captives, were it possible to place them in actual bondage. We have, however, lived long enough to not only see the gleaming, gladsome beam deftly caught, but compelled to engage himself in a useful calling into the bargain. As an engraver our captive beam stands unrivalled, and we have just had an opportunity of closely investigating the nature of his labors in the service of the Photographic Relief Printing Company (Limited), whose works are situated in Hereford Square, Brompton. Accompanied by Mr. Woodbury, the patentee of the new process, and, so to speak, the sunbeams' task-master, we were first shown the department in which the negative pictorial representations on glass are prepared and stored away. These are produced either by the action of the solar ray or in its absence the electric light; so it will be seen that the sunbeam is not the only prisoner that is turned to useful account by the ingenuity of Mr. Woodbury. The negative impression on glass on being obtained is treated with fluid gelatine, in which a little bichromate of potash has been dissolved; and it was explained to us by Mr. Woodbury that such portions of the work as remained from absence of tint unacted on by light were easily dissolved and carried by the action of warm water; whilst all shading, however delicate, remained intact, just as the rocks, stones, shrubs, and plants, stand clearly and sharply defined when the winter's snow melts slowly away, and summer returns again. The uneven-surfaced sheet of solid gelatine thus procured is next laid on a plate of soft metallic alloy, and placed beneath the massive iron surfaces of a hydraulic press. A few noiseless strokes forward and back of a long steel handle, and a pressure of 150 tons is brought to bear on both gelatine and alloy,

when the former substance is found to have transferred in a marvellously truthful manner every line, shade tint, and effect, to the surface of the latter, which is now, in short, an intaglio impression of extraordinary accuracy of detail. This from the press is taken to the saw table, where a set of fine circular saws, driven by a powerful gas engine, cut away all superfluous metal from the ends and edges of the plate, and fit it for the use of the printers. We, following the fortunes of the newly-formed design, travel onward and enter the printing department. Here we find a number of curious, novel, and noteworthy contrivances for simplifying and economizing labor. Each printer has in his charge a large round table, in the centre of which an upright pivot stands. Round this pivot the table revolves freely on the slightest touch. The entire circle of the table's surface is occupied by miniature printing presses. In one of these our metal sun-engraved plate is placed. A large glass decanter filled with colored fluid gelatine is taken from a hot-water stove, where it has been placed to keep warm, and a liberal supply of its contents is thrown broadcast and freely over its surface. A sheet of prepared paper is now taken from a pile of that material found ready at hand, and placed evenly on the surface of the fluid gelatine. The iron cover of the little press is now shut down; a mere touch turns round the table; another press is charged with a plate, gelatine, and paper; and so on until our own particular plate comes round to the printer again. The lever of the press is turned back, and the gelatine, now quite glue-like in substance, exposed to view. The edge of the paper is seized deftly by the printer, stripped away from the plate, and passed to a lad, whose business it is to remove all superfluous gelatine from the edges of the picture with a knife, and lay it aside to be redissolved for use.

"When dry, the printed designs are dipped in a solution of alum, which fixes the gelatine and fits them for mounting and subsequent sale. Each metal plate, prepared as we have described, can be used in the production of 500 pictures, whilst the original sheet of gelatine which we have seen under the hydraulic press can be, if required, sub-

jected to the same operation twenty distinct times, thereby providing twenty metal counterpart impressions, each, as we have shown, capable of turning off 500 pictures. The printers, by the aid of their turn-tables, execute about 100 prints per hour. The pictures thus produced, we are informed, can be executed in any color, are not affected by damp, and do not fade on exposure to light and air. Mr. Woodbury's process, as will be seen, has an immensely wide field open to it.

"He applies it to book illustrations, portraits, architectural works, surgical and microscopical illustrations, scenery, catalogues of manufactured articles, works of art, mechanical matters, etc., prints on glass for ornamental purposes, magic-lantern slides, railway advertisements, slides for stereoscopes, and labels for manufacturers. There can be no doubt that Mr. Woodbury's discoveries will prove of the greatest value, and we have little doubt that, through his courtesy, admission to the works might be easily obtained by such of our readers as may be desirous of seeing what an excellent engraver may be made of a captured sunbeam."

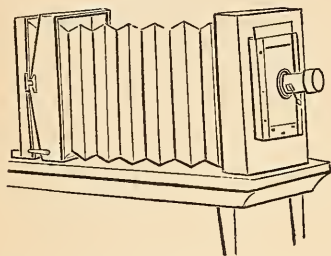
THE CAMERA, AND HOW TO USE IT.

BY GEO. H. FENNEMORE.

It would seem to many almost superfluous to say anything about the camera and how to use it, and yet there are many who know but little of the general use to which the camera can be applied. I have reference more particularly to its uses in copying. I was particularly reminded of this the other day by being asked, "Why will not a camera that will make a whole size picture from life make one the same size from a card picture?" I found the question was asked seriously, and the party said he had often tried to reproduce an enlarged picture from a card or daguerreotype, but never succeeded in getting anything more than one a little larger than the original. He had used a whole-size tube and box. I soon explained to him where his trouble was. This little circumstance led

me to think that perhaps there were many others, whose knowledge of the practical uses of the camera were equally limited, and for their benefit I offer the few hints that follow.

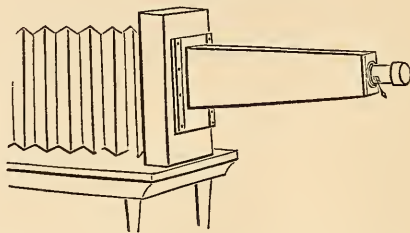
Fig. 1.



When about to purchase a camera always bear in mind that the size, no matter what it is, will only reproduce a picture its original size. That is to say, a half size camera and half size tube will only reproduce a picture its original size, no matter whether it be a card picture or a half size picture. If you wish to copy a whole size picture to its original size, you must have a whole size camera and lens—an 8 x 10 box and lens for an 8 x 10 picture, and so on for the different sizes. This plan of working would require one to have a number of boxes and tubes, which would be both expensive and troublesome. There are two ways to obviate this, viz, either to have a long bellows camera (see Fig. 1) made on purpose for copying or to have a simple contrivance called a cone (Fig. 2) made to fit on your ordinary portrait box. The camera represented in Figs. 1 and 2 is one of the 11 x 14 size of the American Optical Company's make, and is capable of being drawn out thirty-four inches. This box, with a double whole size lens attached, will only make an 11 x 14 picture its original size. If, now, we take off the double whole size tube and replace it with a whole size tube it will make an 11 x 14 copy from a whole-size original. Again, if we replace it with a half size tube, we can make an 11 x 14 copy from a half size picture. If now we want to copy a card picture to a 11 x 14 size, the camera will not be long enough and we must either have a longer box made specially, or use a cone as in Fig. 2. Fig. 1 is the camera with a half size lens attached and is capable of making an

11 x 14 copy from a half size picture; an 8 x 10 from a card picture or medium size ambrotype or daguerreotype, or the whole-size from a $\frac{1}{2}$ th size. Fig. 2 is the same camera with the front taken out and the cone put in its place,

Fig. 2.



and the same tube on the end of the cone. The cone is 24 inches long, which with the box drawn out its full length, gives a focal length of 58 inches. This length will give an 11 x 14 picture from a $\frac{1}{2}$ th size or even smaller ambrotype. The same rule holds good with all cameras. If a whole size box is the largest you have, a quarter size tube will give you a whole size picture from a medium ambrotype or card picture, but if the picture to be copied is smaller than that, you will need a cone, which, however, need not be over 12 inches long. Before concluding this subject I cannot too highly recommend to those who have not tried it, the use of the swing-back camera. By its use we can get the whole picture very sharply defined, more particularly in portraits and landscapes. The very excellent cameras of the American Optical Company are nearly all made with the swing back, but in my estimation, the manufacturers make one great mistake—*i. e.*, they put the swivel *above* instead of *below* the centre of their boxes, losing sight seemingly of the fact that the image in the camera is inverted, or in other words upside down. For instance, in making a head and bust of a person, the centre of the head will be about an inch and a half or two inches below the centre of the plate; if then the swivel was placed in that position, and you focus upon the head, no matter how much you swing the top backward or forward the head always remains sharp, because it is stationary at that point, but as the boxes are now made, we focus upon the head, and

in bringing the rest of the body into focus we throw the head out. The consequence is, it takes two or three minutes to do what ought to be done in a couple of seconds. I hope the American Optical Company will consider these remarks, and make the much-needed alteration in their otherwise unrivalled cameras. At some future time, I will give the best methods of copying ambrotypes, daguerrotypes, etc.

PRIZE FOR SOLAR NEGATIVES.

THE following *special* offer is made for solar negatives to be printed from for the coming National Exhibition in Cleveland.

A *Gold Medal*, the same as those described in our last issue, will be given for the best portrait solar negative that is sent us by March 15th next.

The competing negatives shall be submitted to three competent judges who are not competitors, and who shall decide to whom the award is to be made.

Negatives for this purpose should be well defined in the high lights, and weak by transmitted light. Same length of exposure should be given as for direct printing negatives, and fixed in cyanide.

Generally speaking, a negative too weak for a good contact print will be preferred. If the subject be a bust picture for vignetting, the head should not be less than $1\frac{1}{4}$ inches. Plates much preferred of size $6\frac{1}{2} \times 8\frac{1}{2}$ inches. If varnished, only alcoholic varnish should be used, so it may be removed easily if desirable.

The judges will select the best five negatives and from them select the one entitled to the award. Those who make the five selected negatives will each receive a full sheet print from the prize negative, or their own, gratis. Others will be supplied with prints from all or any of the negatives, at a reduced price to be hereafter announced.


Those who get their negatives ready earlier, will oblige us by sending them as early as possible. Parties may send more than one negative if they desire. Negatives with more than three figures will not be suffered to enter for competition.

The object of this offer is to secure some first-rate work for the coming National Ex-

hibition, next June, of the National Photographic Association. All choice negatives will be printed for that purpose, whether the prize negative or not.

The prints will be made by Mr. Albert Moore, the well-known solar printer of this city, and by him exhibited. It is in his name and at his request that the offer is made.

We sincerely hope that it will receive the attention of our *best* artists—not so much for the prize as to enable those who visit the Exhibition to see and study fine solar work.

 Photographers who have fine solar negatives, but do not wish to enter them for competition, would confer a favor by loaning us the same for printing selections for the Exhibition. In such cases a print will be given to the parties whose negatives are used.

A Familiar Explanation of the Phenomena Produced by the Stereoscope.

WE are often asked, "What is a stereoscopic picture?" "When is it stereoscopic?" and "Why cannot we make them with one lens just as well as two?" For the benefit of the ignorant on that score, we make the following extract from Prof. Pepper's excellent work, "*Cyclopædic Science Simplified*:"

The name "stereoscope" is derived from two Greek words, signifying to view solid things, and the instrument is so constructed that two flat pictures, taken under certain conditions, shall appear to form a single solid or projecting body.

A picture of any object is formed on the retina of each eye; but, although there may be but one object presented to the two eyes, the pictures formed on the two retinæ are not precisely alike, because the object is not observed from the same point of view.

If the right hand be held at right angles, to, and a few inches from the face, the back of the hand will be seen when viewed by the right eye only, and the palm of the hand when viewed by the left eye only; hence, the images formed on the retinæ of the two eyes must differ, the one including more of the right side and the other more

of the left side of the same solid or projecting object. Again, if we bend a card so as to represent a triangular roof, place it on the table with the gable end towards the eyes, and look at it, first with one eye and then with the other, quickly and alternately opening and closing one of the eyes, the card will appear to move from side to side, because it will be seen by each eye under a different angle of vision. If we look at the card with the left eye only, the whole of the left side of the card will be plainly seen, while the right side will be thrown into shadow. If we next look at the same card with the right eye only, the whole of the right side of the card will be distinctly visible, while the left side will be thrown into shadow; and thus *two* images of the *same* object, with *differences of outline, light, and shade*, will be formed—the one on the retina of the right eye, and the other on the retina of the left. These images falling on *corresponding parts of the retinae*, convey to the mind the impression of a *single object*;* while experience having taught us, however unconscious the mind may be of the existence of two different images, that the effect observed is always produced by a body which really stands out or projects, the judgment naturally determines the object to be a projecting body.

It is experience, also, that teaches us to judge of distances by the different angles of vision under which an object is observed by the two eyes; for the inclination of the optic axes, when so adjusted that the images may fall on *corresponding parts of the retinae*, and thus convey to the mind the impression of a single object, must be greater or less, according to the distance of the object from the eyes.

Perfect vision cannot then be obtained without two eyes, as it is by the combined effect of the image produced on the retina of each eye, and the different angles under

which objects are observed, that a judgment is formed respecting their solidity and distances.

A man restored to sight by couching cannot tell the form of a body without touching it, until his judgment has been matured by experience, although a perfect image may be formed on the retina of each eye. A man with only one eye cannot readily distinguish the form of a body which he had never previously seen, but quickly and unwittingly moves his head from side to side, so that his one eye may alternately occupy the different positions of a right and a left eye; and, if *we approach a candle with one eye shut*, and then attempt to snuff it, we shall experience more difficulty than we might have expected, because the usual mode of determining the correct distance is wanting.

In order then, to deceive the judgment, so that flat surfaces may represent solid or projecting figures, we must cause the different images of a body, as observed by the two eyes, to be depicted on the respective retinae, and yet to appear to have emanated from one and the same object. Two pictures are therefore taken from the really projecting or solid body, the one as observed by the right eye only, and the other as seen by the left. These pictures are then placed in the box of the stereoscope, which is furnished with two eye-pieces, containing lenses so constructed that the rays proceeding from the respective pictures to the corresponding eye-pieces shall be refracted or bent outwards, at such an angle as each set of rays would have formed, had they proceeded from a single picture in the centre of the box to the respective eyes, without the intervention of the lenses; and as it is an axiom in optics that the mind always refers the situation of an object to the direction from which the rays appear to have proceeded when they enter the eyes, both pictures will appear to have emanated from one central object; but as one picture represents the real or projecting object as seen by the right eye, and the other as observed by the left, though appearing by refraction to have proceeded from one and the same object, the effects conveyed to the mind, and the judgment formed thereon,

* That this is the correct theory of single vision with the two eyes is evident. For if, while looking at a single object with both eyes, we make a slight pressure with the finger on one of the eyeballs, we shall immediately perceive two objects; but, on removing the pressure, only one will be again seen.

will be precisely the same as if the images were both derived from *one solid or projecting body*, instead of from *two pictures*, because all the usual conditions are fulfilled; and consequently the two pictures will appear to be converted into one solid body.

The necessary pictures for producing these effects, excepting those of geometrical figures, which may be laid down by certain rules cannot, however, be drawn by the hands of man; for, as Prof. Wheatstone has observed, "it is evidently impossible for the most accurate and accomplished artist to delineate, by the sole aid of his eye, the two projections necessary to form the stereoscopic relief of objects as they exist in nature, with their delicate differences of outline, light, and shade. But what the hand of the artist was unable to accomplish, the chemical action of light, directed by the camera, has enabled us to effect.

Daguerreotype portraits and Talbotype pictures are therefore taken, usually by two cameras placed towards the object, with a difference of angle equal to the difference of the angle of vision of the two eyes, which is about 18° when the object is eight inches from the eyes; hence, if these be carefully examined and compared with the original projecting objects, they will be found to be faithful representations of the object as seen by each eye respectively.

WHO INFRINGE THE "SLIDING BOX PATENT?"

WE are frequently asked this question, and it is a very difficult one to answer. As the matter now stands, Mr. Simon Wing, of Boston, and others associated with him, we believe, have secured the renewal or extension of a patent for a certain kind of box used mainly for making ferrotypes. The principal feature of this box is, that one can, by moving the plate over the field of the lens or lenses, or by moving the lens or lenses over the plate, multiply pictures in greater or less numbers on one plate. Such a box is very useful to parties who make that kind of picture, and Mr. Wing furnishes a very excellent box for the purpose. Many more of his boxes could have

been sold by him, and the profits thereon safely in his coffers, were it not that he raised the claim that all who make more than one picture on a plate by sliding the holder so as to bring the plate into different positions over the field of the lens, *infringe his patent*, and must stop. This absurd claim raised the ire of those who had used such means of multiplying pictures on one plate long before his patent was applied for, and every method has been used by the trade to avoid and evade his patent in every possible way.

The result was a wrangle here and there, and finally lawsuits. Mr. M. B. Ormsbee, being associated with Mr. Wing, the patent became familiarly known as the "Wing-Ormsbee" patent, and also as "the sliding-box patent."

The last person sued by the patentees was Mr. C. C. Schoonmaker, Troy, N. Y., whose statement will be found in our last December issue. Mr. Schoonmaker fought bravely and alone, and produced such overwhelming proof that the patentee's claims were invalid, that the case was decided against them, and Mr. Schoonmaker was victorious.* The patentees appealed, however, and the case was carried up to the Supreme Court, where it will be argued some time next month we understand. There is every hope that Mr. Schoonmaker will again have the decision in his favor. And, although appeal after appeal has been made to the fraternity to contribute of their means to help him, we are ashamed to hear from him that but a few have responded. He is out of the photograph business, and is pursuing this contest as a *matter of principle*, and he is not to be bought off, though the parties are ready to do it, we are told.

Who, then infringes the patent? We answer, as the case now stands, *no one* infringes it, because the patentees have not substantiated their claims. Who infringes the patent if their claims are substantiated in the Supreme Court? We answer, all who use one or more lenses to make pictures by moving the lens over the plate, or who slide or move the holder over the field

* See decision of the court, Judge Nelson, in our last volume, page 294.

of the lens—those who use one lens to make two pictures on a plate—two lenses to make four or more pictures on a plate—four lenses to make more than four pictures on a plate, etc., etc.

Who ought justly to suffer unjust claims upon them? *Every one* willing to sit quietly and see another man struggling for them, without offering to help him.

We really believe that if Messrs. Wing & Co. had pushed the sale of their boxes, and dwelt upon their merits without adding the absurd claim we mention, they would have been wealthy to-day, and without lawsuits to worry them.

OLD TIMES.

At the November meeting of the *Boston Photographic Association*, our friend, Mr. E. L. Allen, read a little sketch of his past experiences, which tells a story so interesting to all that we must multiply it. There are very few arts or professions which have been carried to such perfection as ours has, whose pioneers are still living in numbers. Photography is young but great. Every day nearly, we meet some one who, with unmistakable pride, will swell up his breast, hit it a thump, and say: "*I made Daguerreotypes twenty years ago.*" We appreciate the feeling, and it is not wrong to indulge it. You who can say so have much to be proud of. You have been identified with the greatest and most useful of the arts since its birth. You have seen the infant's struggles for life; fought with it during its childhood, but oh! who can expect to live to see it in its *manhood*? None of us, we expect. Think of a first-class operator working for \$4 per week now?

But Mr. Allen must be heard:

MR. PRESIDENT: My only excuse for coming before you in this way to-night, is an earnest desire to see these meetings flourish, and not because I think I can tell you anything very interesting.

But unless we make some individual effort, as we were told last month, we may expect to see our meetings dwindle away, and the Society itself become of none effect. And if this ever happens, it will be our own

fault, for I know we have here good material, we are well officered, our meetings are dignified and well conducted. We have among us some good photographers, men of experience, who, if they will put a shoulder to the wheel, will make these meetings so interesting, that to miss one will be "worse than having a tooth pulled," as the young ladies say to us when they come to be photographed.

I told you last month I had read a report of the previous meeting in the English journals, then at hand. That was a mistake. It was the June meeting. However the fact stands. We were reported, and to the extent of a column, which I thought gave us a prominence that we must work to maintain. It will never do to fail, with our English cousins looking at us.

We were not all born orators nor yet good photographers, but we can all learn something, and I am sure these meetings will be the best aid we ever had, if we only use them. I know that to-day we are making better pictures in Boston than we were a year ago. And I attribute the fact to the influence of this and the National Association. I feel it, and I doubt not others of you do. At the same time you must remember we are hardly yet started.

And here I wish to qualify a remark made at last meeting, when I called the photographic part of the late Mechanics' Exhibition abominable. That was rather harsh and unfair, as one of the principal contributors was not here.

But I am not going to take back what I then said, only qualify it. It is not too much to say that some of the productions (I can't call them pictures), there exhibited were abominable. And at the same time there were some good things there, among which I must mention a 7 x 9 of Edward Everett Hale and his little boy, made in imitation of the engraving where a father is teaching his son to plough, and which pleased me more than anything else I saw, from its close resemblance to the engraving. Of course I except the foreign products.

But taken altogether, the Exhibition was far short of what it ought to have been for Boston. I will venture the assertion the next one will see a very different dis-

play; especially if business remains as it has been the last few weeks, as there will then be nothing to prevent us devoting our whole energies to that object.

Something has been said of biographical sketches being introduced. They would no doubt be very interesting, but should be used as a sort of dessert after the substantials have been disposed of, else those who are watching us from over the water, may think we are not so deep in chemistry as we ought to be, or not so well posted in photography.

I am proud to say I have been in the ranks of picture makers in the most palmy days of the business, when our friends Messrs. Southworth & Hawes were making the most beautiful daguerreotypes ever produced in the world. When the firm of Ormsbee & Silsbee were on the corner of Bromfield and Washington Streets, and with whom I commenced my career, at a salary of \$4 per week, after paying \$50 to learn the business, which occupied four weeks.

At the end of a year my wages were doubled. This was considered a pretty good thing, and immediately led to a matrimonial engagement, which still continues, but not on \$8 per week.

At this time nothing was known of photographs on this side the ocean. We got our living altogether by the peerless daguerreotype. Soon the crystalotype began to be talked of, and Messrs. Whipple & Black were its pioneers in the New World. Our friend Ormsbee, who at that early day possessed some of the spirit of later times, and was bound not to be left behind, sent the late A. A. Turner to Messrs. Whipple & Black to learn the new process. This occupied but a short time, when one of Ormsbee's handsome rooms was dismantled and fitted for a work-room.

Mr. Turner, at the commencement, was obliged to make daily visits to Messrs. Whipple & Black's to procure his chemicals, as the formulæ were not to be passed till Mr. T. had signed a contract to work a certain time at a certain rate of wages to pay his tuition. But the hero of a hundred swindles proved too smart for poor Ormsbee. Somehow he discovered the secret,

and had him completely in his power. The contract papers were all made out, and were to be signed by Mr. T.'s father as bondsman, who lived at Bath, Me., and were carried there for that purpose by his hopeful son, but they never came back.

Ormsbee had been at the expense of fitting up, and was obliged to make the best of a bad bargain. Turner soon produced some of the best pictures that had been made, but would be on a strike every few weeks till his salary reached \$36 per week. This was too much for those times, and soon burst the establishment.

Turner went to New York, and in the course of a year or two the collodion process came up. This he soon became master of, and aspired to a trip to Paris. In order to raise funds for this, he offered to teach a few pupils at the low charge of \$50 each. I was one of the number, and for this purpose went to New York and came back within a week fully posted. It displeased Ormsbee very much that I went to New York instead of going to Messrs. Whipple & Black's (who had of course kept pace with the times, and could teach as much as anybody knew), and learn on his account, but I knew what that meant, and preferred to be on my own hook. On my return from New York, he took me back at a salary of \$18 per week. I had worked for him up to the time of going at \$10. The burst establishment had been repaired as well as possible after Turner left.

This was a big jump, from \$10 to \$18, and I have a faint recollection of conscientious scruples at the time. In fact, when I look back, I wonder how I had the impudence to impose so much upon anybody. I really knew nothing.

To commence I made a silver bath. My kind friend to whom I had given the \$50, had generously furnished me with a bottle of collodion to bring back, so I was saved the trouble of making this, and it was a trouble in those days, as we had to make our own cotton, which generally came out good once in about ten trials.

In my bath I put, as near as I can recollect, about one ounce of nitric acid, having forgotten to note down the exact quantity required. This, I need hardly tell you, did

not work to my entire satisfaction, and as I supposed it lacked acid, added a couple of ounces more. This I found did not improve matters, and I was in a terrible fix, expecting to lose my situation, when my good friend Turner came along on a farewell visit to Boston before he crossed the ocean. When I heard he was in town I made haste to see him, and find out what the trouble was. He soon set me right, and I have not been so badly stuck since.

THE EXHIBITION.

BEGIN *now* to get ready for it. Think over what you want to do, and begin the work at once. Do not leave it until the last of May and then send pictures that you will be ashamed to own when you go to Cleveland and compare your work with that of others.

There are several who are already at work and some pictures are actually made. Follow the example of such. Our local Secretary, Mr. Ryder, has secured a building that will accommodate an immense collection. *Let it be filled.* Mr. Ryder also hopes to arrange with the express companies to have all freight delivered one way free of charge.

We have already arranged with the Pennsylvania Central and Philadelphia and Erie Railway Companies for a considerable reduction in fare, and in good time will give full instructions to our readers as to routes, fares, etc.

Look forward to the event and *begin to prepare now to go.* It will be a grand affair—much to be learned—much to be seen—to be proud of and enjoy. It will far exceed our Boston exhibition, which was only our maiden effort. Be sure to go.

And now one word to a special class, and not a few either, of our readers.

This exhibition is to be held *in the West.*

Therefore, as was resolved by the noble Western men who visited the Boston exhibition, *let the West join hands and help Cleveland.*

Let St. Louis, Chicago, Louisville, Cincinnati, Pittsburg, Detroit, Buffalo, Columbus, San Francisco, and all our Western cities, help to make this a grand affair. Ap-

point your committees *now* to confer with the local Secretary and begin *now*, for the time will soon be here. *Begin now.* Fuller particulars in our next.

GERMAN CORRESPONDENCE.

Art Study in Photography—On the Influence of Distance in Portraiture.

A NEW year has begun; it is the fourth since I began to write for your excellent Journal.

It has been my lot to chronicle many interesting inventions, but of much more importance has been the steady progress of our art. This progress takes place slowly, quietly, but irresistibly, apparently imperceptibly, but it becomes quite evident when we compare the pictures of to-day with those of five years ago. About that time we commenced to pay more attention to art culture, although there were plenty of persons then who had not the slightest conception of the importance of this study for landscape and portrait photography, and who only, through the glorious successes of Loescher & Petsch, and Milster, in Berlin, Reutlinger and Adam Salomon, in Paris, Notman, in Montreal, and Kurtz, in New York, have been convinced of their error. *Now* we are so fully convinced of the importance of studying art in photography, that our photographic books and periodicals teem with articles on this interesting subject. My attention has been especially called thereto on receiving two books from the United States, the one called "Photographic Mosaics," and the other, "How to Paint Photographs," by Ayres. In the former, six articles by well-known writers, Notman, Kurtz, Kent, and Robinson, are devoted to the artistic part of our art, without counting numerous and valuable short notices interspersed in the work, on lighting, posing, drapery, etc., etc. Such notices are of more importance than formulae for new toning baths, or collodion prescriptions. The technical part of our art has, at the present day, been brought to so perfect a state, that every, even moderately skilful, manipulator can make a good plate or a good print after serving a short ap-

prenticeship. The art studies require much more time and labor, and it is my opinion that for such the necessary literary works are still wanting. The circumstance that the interesting little work, "*How to Paint Photographs*," has already reached a second edition, is sufficient proof for taking this view. I have read the book with much pleasure. It becomes evident at once, that it has been written by a practical man for practical men, and this places it much above those careless literary productions that are hurriedly made up at the desk of some theoretical writer, and with which the photographic world used to be flooded.

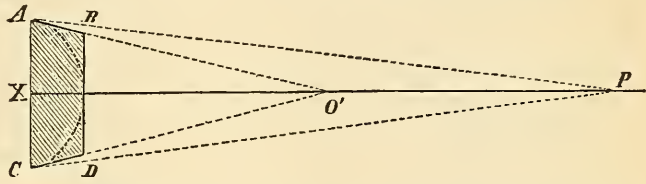
There was a time when retouching the negative was in bad repute, and when it was preferred to produce pictures that had not been retouched. To-day there is hardly an intelligent photographer who will not admit that retouching enhances the artistic value of a picture, and serves not only to remove spots from the negative. There must be thousands of photographers in the United States, particularly in the smaller towns and villages, who cannot afford to keep a painter or retoucher, and who have to put the finishing strokes to their pictures themselves; for these the book of Mr. Ayres must be an invaluable guide.

I have lately occupied my time with a series of experiments not uninteresting for portrait photography. Two cards were presented to me, representing large heads of ladies. Both represented the same person, and both were taken by the same artist on the same day. The position of both was full face, and still there is a decided difference in the two. In one the face appeared broad and thick, while in the other it was narrow and small. The most opposite views were expressed to explain this phenomenon. After a little consideration, I found the solution of the problem, which I will give with a few lines. Suppose A B C D be a four-cornered body, for instance a pillar with inclined sides. When we look at this from two different standpoints, O and P,

which, although they are both on the same side and in the same direction, still the view will be quite different. O lies exactly in the direction of the side surfaces; these seem so much foreshortened that they appear no longer as surfaces.

It is quite different with the double distance, P; here the side surfaces become plainly visible. The picture in the camera will show similar appearances.

When I photograph the pillar from O, I will see nothing of the sides of the pictures even if I overlook the whole structure, but, when I take a picture from P, I will get the sides, and, in consequence, the picture will, with the same height, appear wider.

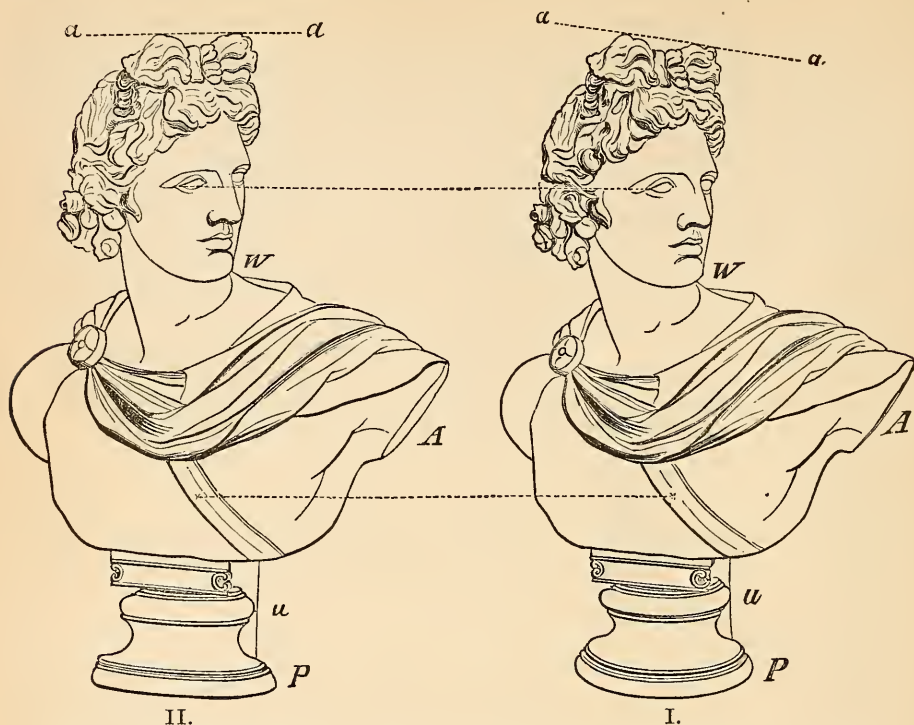


If we now suppose that A B C D is a human head seen from above, the sides are here the cheeks. If we make two pictures from O and P, we will get similar results. From the nearer point the cheeks are not visible, the figure appears smaller; from the distant point the cheeks will appear, and the figure will appear broader.

This conclusion is certainly comprehensive, but it conflicts with the general experience, that by taking a picture at a short distance, for instance with globe lenses, the nearer objects will very often appear exaggerated. At first I could not understand this apparent contradiction until an experiment enlightened me.

I took two pictures of a bust of Apollo, both from exactly the same side and of the same dimensions, but the one a distance of 47 inches and the other from 112 inches. The difference between the two pictures is quite apparent. I inclose you two photographs. I send wood-cuts made in which the outlines are exactly maintained. The first I shall call I, and the second II.

Although not near so striking as the original photograph, still the difference is sufficiently evident to strike the observer.



The whole figure appears in I smaller, the chest almost weak, while in II the figure is robust and strong. The distance from the breast-point to the eyes is in both exactly alike, but the width of the breast is in I 56 millimetres, and in II 59 millimetres. Another remarkable difference: the stroke of the hair is in II horizontal, but in I it inclines backward (see lines *a a*).

The rings of the base of the statuette appear in I strongly curved, while at II they are very flat ellipses. In I we scarcely see the side surface of the arm, *A*, while in II it becomes quite plain.

In II the head is more between the shoulders (observe the angle of the neck at *W*), the whole figure seems to stretch the neck more in I.

I have made, besides these two, two other pictures, at a distance of 60 and 86 inches respectively, and if we place now the four pictures side by side, all of which have been made with lenses free from distortion, we will see that, with the increasing distance, the figure becomes larger, stouter, that the hair inclines more backwards, the head

seems to incline more forward, the base becomes flatter, the chest widens, and the stumps of the arms become more and more visible.

Many superficial observers will say that these are trifles, that it does not make much difference if Apollo appears a little stouter or not; and, so far as Apollo is concerned, they are right, but the case becomes quite different when we apply this rule to portraiture. Everybody has remarkably keen eyes. Every line is here criticised.

What distance, then, shall the photographer select in order to get a correct picture? That depends entirely on the object to be represented.

Painters generally remove twice as far from the person as the height of the same, or, for an ordinary-sized person of 5 feet in height, he stands at a distance of about 10 feet. For a half-length picture 5 feet would be about the proper distance, but we can use this rule only partially as a guide.

The painter has liberty to choose the proper position; he paints with both his eyes open, and can change the distance at will.

The case is quite different with the one-eyed camera, which, when once set, has to work according to mathematical laws. A thinking artist will take advantage of the differences produced by different distances, he will not make a stout person still stouter by placing the camera far off, nor a thin one still thinner by placing it in too close proximity to the instrument.

Particular attention should be paid to this in taking busts or large heads, which are now so much in request, and, in fact, with all objects in which the width is considerable in proportion to the height. With full-length standing figures, where the width is inconsiderable in proportion to the length, these errors are not near so annoying.

Hence, I would recommend for a large establishment several lenses of different focal lengths.

Another circumstance I must not omit mentioning here: the above stated differences take place not only with different but also with the same objective. I took the pictures of the Apollo with a Dallmeyer lens, at 5 and 10 feet distances, the latter of course only half the size of the former, but when I magnified the second picture to the size of the first, all the differences became quite apparent.

When we have to make a negative from which a life-size picture is to be made, we have to pay close attention to distance, even more so than with smaller pictures.

Suppose the life-size picture is to be 5 feet, we would have to look at it at a distance of 10 feet to get a good view of it, and, consequently, we should place the camera 10 feet from the person when we make the negative from which the enlargement is to be produced; otherwise, the person will appear too slender.

I shall add a few words more on this subject in my next.

Yours, truly,

DR. H. VOGEL.

If you meet failure after success, you may be assured that it is because *you* have done differently from what you should, and that the chemicals are not *invariably* at fault.

NEW YORK CORRESPONDENCE:

THE Photographic section of the American Institute held its January meeting on the evening of the 4th, Prof. Tillman presiding.

The general debate was of a desultory character and by no means connected or easy to make a report of.

Mr. Mason exhibited a print on plain paper made in 1854, and toned in the old gold and hypo bath. With the exception of a spot here and there the print seemed quite as fresh-looking as a new one. It was made by Mr. Hugh O'Neil. Mr. Mason asserted that he had some prints on plain paper which he made about ten years ago that were entirely unchanged, except where some bichloride of mercury and iodine had been spilled upon them.

This seems to prove that photographs *will* last if not subjected to atmospheric changes. We all know that plain paper prints remain, as a rule, unchanged much longer than those on albumen paper.

Mr. Weeks related some curious experiments with a silvered glass mirror. He had adjusted it in front of his camera box so that the reflection struck the lens at an angle of about 45 degrees. He then photographed an image reflected by this contrivance in less time than he could get the same effect from the subject direct.

Dr. Vander Weyde called attention to the report from Europe that fluorine has been successfully used in photography.

Professor Tillman remarked that this statement brought up a very interesting question touching the part played by the halogens in actinic action. Some time since, before this Society, he had endeavored to show, from theoretical considerations alone, why bromine, when used with certain iodine compounds, should increase the chemical action of light. Similar considerations had led him to conclude that the salts of fluorine would not be beneficial in producing like results. In addition to those considerations, it may be stated that fluorine exceeds even oxygen in its affinities, and is, therefore, to be regarded as the most powerful of the electro-negative elements. Indeed, it is still doubtful whether fluorine has yet been obtained in a separate state. M. Pratt,

of France, and others, who claim to have isolated fluorine, describe it as a colorless gas, and there is good reason for believing that this, like the gaseous elements of less atomic weight, namely, hydrogen, nitrogen, and oxygen, is devoid of color. The atomic weight of fluorine is 19; taking the remaining halogens in the order of their atomic weights, we find that chlorine (35.5) is a yellowish gas; bromine (80) is a liquid yielding deep red fumes; and iodine (127) is a solid, which, when subjected to heat, becomes a violet-colored vapor. From these facts we may infer that the forces which fix their atomic density prevent these elements from being equally affected by all the undulations producing white light. In the case of chlorine the rate of its molecular motions corresponds with that of undulations which produce a certain yellowish tint in the solar spectrum. Iodine, the element of greatest density, has a rate of molecular motion corresponding with that of the most rapid undulations which show their effects in the visible spectrum. On the other hand, bromine, which, in point of density, stands intermediate between chlorine and iodine, has a rate of molecular motion corresponding with the slowest undulations which produce the impression of red. It is evident, therefore, that the rate of molecular motion does not depend alone on density; and we are confirmed in this opinion on finding that either of the colorless gases, when increased in density by subjection to pressure, do not undergo any changes of color. Yet the fact remains, that the two electro-negative elements, either of whose atomic weight exceeds that of any other metalloids, and of a majority of the metals, are the most effective agents, next to silver, in the hands of the photographer. Another singular coincidence may be mentioned here: the atomic weight of silver (108) added to that of fluorine is exactly equal to that of iodine. There are many chlorine compounds which are influenced by light; the most sensitive of these are combinations derived from organic compounds. Here is a field, yet unexplored by the photographic chemist, which may hereafter yield abundant fruit.

Dr. Vander Weyde said the statement read by Professor Tillman regarding the

haloid compounds was exceedingly interesting. With regard to fluorine he should have said that body was used for photographic purposes in combination with oxygen; these two being combined with electro-positive elements.

Mr. Edward Bierstadt presented the specifications of Albert's photo-litho process, which were read by the secretary. He stated that he was experimenting with the process and hoped soon to testify to its practical value. The fact that the image is reversed by this process was raised as an objection to it, and several methods suggested for overcoming that objection which are not very practical or new.

Dr. Vander Weyde stated, in regard to the subject of illumination in subterraneous caves, that parallel rays coming from one locality, as in the case with a reflecting mirror or magnesium or hydro oxygen light, cause a too strong illumination of prominent parts, and too black shadows, with no middle tints; that to obtain these, reflecting surfaces or smaller sunlights are required; that such an illumination with parallel rays coming from a single locality from a distance is only adapted for printing where the negative has to be reversed, so that the collodion film is at some distance from the paper. For this purpose M. Carey Lea proposed some time ago in the *Philadelphia Photographer* to print in such cases at the end of a room, and illuminate from the window by means of sunlight reflected by a mirror. Dr. Vander Weyde used for this purpose a narrow elongated box, not much wider than the negative, with blackened sides, at the bottom of which the printing was done, and the open top of which was turned to the light; as all sidelight was excluded here, and cloudlight fell on the paper, he obtained rapidly sharp prints from inverted negatives, even if the glass was very thick. There are, however, cases in which the opposite conditions are required, namely, as much sidelight as can be got in all possible directions; such is the case when copying an engraving or drawing made on very rough paper. If then we have light in one direction only, every unevenness of the paper shows its light and shadow, which the camera of course copies as well as it copies

the picture itself. Now it is found that in such a case the best remedy is to make the negative with as full an illumination of the original as possible so that the light falls from all sides at the same time; for instance, exposing it on the roof. With such a precaution great roughening of the paper will often not show itself at all in the negative.

The new year with its ever attending presents has not forgotten our craft, for with it comes the ever welcome *Mosaics*; a book to every photographer of more value than all the process peddlers of a lifetime; it tells many things, old and new, which all should know and keep constantly in mind. Fit companion to it is that "gem of first water," *How to Paint Photographs*, second edition. If with these and the *Philadelphia Photographer* progress is not made, the fault is not yours or those who write, but with those for whom such are intended.

Those who have not seen the new work by Mr. H. P. Robinson on "*Pictorial Effect in Photography and Combination Printing*," should lose no time in obtaining the same. It will inform them of much in the art department of photography; and tell why curtains, chairs, vases, and gas fixtures should not be scattered at random over the picture; also how such should be, if proper balance and harmonious effect is to result. It is a work valuable as well to the landscape artist, and should meet with a liberal circulation.

Mr. Mason asserted the necessity of some artificial light for solar printing. The subject was discussed at length, but the members seemed to have forgotten Dr. Monckhoven's new discovery altogether.

Mr. H. T. Anthony gave an amusing account of a sitting he endured once of thirty minutes, in order to secure a picture. The calcium light was used. Yours, &c.

C. W. H.

PHOTOGRAPHIC SOCIETY OF PHILADELPHIA.

THE regular monthly meeting was held Wednesday evening, January 5th, 1870, the Vice-President, Dr. Alexander Wilcocks, in the chair.

The minutes of the last meeting were read and approved.

A committee, consisting of Messrs. Corlies, Davids, and Wallace, was appointed to procure a suitable certificate to be presented to Mr. John Moran, to whom the last prize picture was awarded.

A proposition was made by Mr. Davids, asking if the Society would accept of two silver medals, and award them for the best specimens of portrait and landscape photography made by any of its members during 1870.

It was, on motion, ordered, that the Society accept the donation of medals offered, and fixed the meeting in December as the time at which prints and negatives should be presented for competition.

The Secretary exhibited an apparatus designed by Mr. L. J. Marcy for making glass positives for the magic lantern at night, by the use of a coal-oil lamp arranged somewhat upon the same principle as his magic-lantern lamp (except that one wick is used, and no reflector). A very brilliant illumination is obtained, the rays from which are made parallel by a small diaphragm in front of the light through which they must pass. Separate from the lamp is a small wooden frame placed at a right angle on a firm base. Upon the upright frame are four springs to hold the negative in position. On the opposite side are four small pieces of silver upon which the sensitive plate rests, so that the two surfaces may not exactly touch. A metal trough is put below the frame to catch all the silver drainage. To make a glass positive, light the lamp, put on the diaphragm, and place the frame containing the negative (collodion side away from the lantern), directly in front of the light, at a distance of about 15 inches from it. Prepare the plate in the usual way. Cover the negative so that the light may not strike it until the sensitive plate is in position. After the plate is excited, place it upon the metal corners (collodion towards the negative), and, by turning a spring which presses upon the centre, the plate will be kept perfectly rigid during the exposure, which should be of about two minutes' duration. Allow the light to strike the negative for the requisite time, and cover again. Re-

move the plate and develop, being careful not to fog by over development.

Several pictures were made during the evening, to illustrate its practical merits.

The Secretary stated that he had used Mr. Marcy's photographic printing apparatus repeatedly with excellent success, both as regards sharpness and illumination. By the use of this instrument, pictures can only be made of the exact size of the negative, which is limited to $\frac{1}{4}$ -size plates; a very convenient size, however, for the magic lantern.

On motion, adjourned.

JOHN C. BROWNE,
Recording Secretary.

FERROTYPERS' ASSOCIATION OF PHILADELPHIA.

THE monthly meeting of the Ferrotypers' Association of Philadelphia, was held at Mr. E. F. Warrington's gallery, Tuesday evening, January 11th, 1870.

The President, Mr. C. L. Lovejoy, in the chair.

After roll call the minutes of last meeting were read and adopted.

Mr. Charles E. Bolles was elected a member of the Association.

The Treasurer made his annual report.

The President now resigned his seat in favor of Mr. A. K. P. Trask, who was elected to that office last month, when the annual election of officers for the Society took place.

On taking the chair, Mr. Trask made some appropriate remarks. He thought it would be a good plan to offer a prize medal to the members who would bring in the best work; he showed several fine album-sized ferrotypes taken on the chocolate-tinted plates.

A vote of thanks was given to ex-President Lovejoy for the able and impartial manner in which he had conducted our past meetings.

On motion of the Secretary, it was resolved, that each member shall make at least one ferrotype, and bring it to the next meeting for examination and competition. The best picture to be decided on by a majority of the members present. But none to know, before the decision, each other's

pictures. The formula used in making the best ferrotype to be published in the *Philadelphia Photographer*.

Motion made that a committee be appointed to examine into the manner of doing business and style of skylights used at the different galleries in the city.

An amendment was offered and passed to let the above lay over for one regular meeting.

Adjourned, to meet again Tuesday evening, February 1st, at Mr. C. L. Lovejoy's gallery, No. 500 South Second Street.

D. LOTHROP,
Secretary.

EXHIBITION OF 1870, AT PARIS.

AT THE PALACE OF INDUSTRY.

PARIS, 22d December, 1870.

SOCIETE FRANCAISE DE PHOTOGRAPHIE,
RUE CADET, 9.

THE French Photographic Society had thought fit up to the present time to abstain from granting any recompenses at the end of its exhibitions; at the last meeting it was decided that at the next exhibition, in 1870, would be placed medals and, honorable mentions at the disposal of a special jury, named under certain conditions, which will be hereafter determined.

The earnestness and interest with which the last exhibition of the Society was visited, engage its committee to make a warm appeal to all photographers, practical and amateur, French and foreign, in order to give the most possible *éclat* to the next exhibition, which is to inaugurate this distribution of prizes.

The monthly bulletin of the Society will contain in its next number of January, 1870, the detailed regulations of the exhibition, of which we will merely mention here the principal dispositions. It will contain the list of the jury who will alone be charged with the examination and admission of the prints which may be presented, and will point out the conditions under which will be named the special jury of prizes.

The opening of the exhibition will take place on the 1st of May, 1870, at the same time as that of the Exhibition of Fine Arts, and all shipments should be sent (freight

paid) to the Palace of Industry, door No. 1, from the 1st to the 10th of April, at the latest.

The Society takes charge of all the expenses of organization, installation, and administration, in consideration of a fixed and only tax of 10 francs for each meter of surface occupied by the frames.

Persons desirous of exposing should give notice as soon as possible before the 15th of March, making known the space that they desire to occupy.

For the Committee.

MM. REGNAULT, Honorary President.

BALARD, President of the Society.

PELIGOT, Pres't of the Committee.

DAVANNE, V.-Pres't " "

BAYARD, Secretary-General.

FORTIER, Secretary-Treasurer.

Secretary-Agent, M. LAUBIER,

Rue Cadet, No. 9, at Paris, where all letters should be addressed.

MYSTERIES OF THE NEW YORK DARK CHAMBERS.

A NUMBER of our readers have expressed a desire for the working formulæ of some of the eminent operators in New York, maintaining that they must have some "secrets" which are not made public.

These requests, then, are our apology for what follows. They are no secrets, and have never been held as such. The gentlemen whose names they bear are nearly all members of the National Photographic Association, and are too old in the business to be guilty of holding what they know as "secrets." They have too often enjoyed the benefits of inter-communication, and met our request for their "secrets" with a disclosure of all we asked, and we give them to our readers without extra charge.

FORBES'S FORMULA FOR NEGATIVES.

I have no secrets in my dark-room, and I am willing to let the craft know how I am working, and that is the simplest way I can without raising any dust:

COLLODION.

Ether and Alcohol, . . . equal parts.

Iodide of Ammonium, . . . 5 grains.

Bromide of Ammonium, . . . 1½ "

Bromide of Cadmium or

Potassium, 1½ grains.

Cotton, 4½ to 6 grs.

I find that this mixture works well, winter and summer alike. Sometimes I work ammonium and cadmium alone (5 grains of iodide to 2½ grains of bromide), and mix together some of both, and have found them to work well. I never let my bath get below 40 grains, and I keep my room warm night and day. In developing I use plain proto-sulphate of iron, 20 to 25 grains to the ounce of water; sometimes I have to use less, according to the subject and the style of dress the parties have on. *To make good work you have to make every sitting a study.*

Yours, truly, J. L. FORBES,

Gurney's Gallery,

5th Av. and 16th St., N. Y.

January 6th, 1870.

Mr. Forbes is one of the most talented manipulators in this country. We have seen many of his negatives, and they are a wonder, a study, and a delight, having all the good qualities of perfect negatives.

KRUSE'S AMM.-NITRATE PRINTING PROCESS FOR PLAIN PAPER.

My process, of course, is only used for copies and solar prints. It is, doubtless, the same as that used by all others. I have no "secrets." I find it *good*, and, such as it is, I give it unto you.

I prefer the Steinbach paper to all others, for its regular quality. It is easily salted and is not injured by washing.

SALTING SOLUTION.

Chloride of Amm., . . . 60 grains.

Water, 1 quart.

I salt two sheets at once. Placing them back to back, I sweep them through the solution three times, and then immerse them one minute. I then hang them up to dry, distinctly marking the salted side, to guide me in silvering. Care should be taken in salting, that the right side of the paper be outward.

SENSITIZING SOLUTION.

Nitrate of Silver, . . . 1 ounce.

Water, 8 ounces.

From this pour off one-fourth (or 2 ounces), and to the remainder add 6 ounces

of liquor ammonia, drop by drop, rapidly stirring with a glass-rod all the while. The solution will at first turn brown, but, after stirring, will clear up again. Now add the 2 ounces separated to the other, and filter.*

The solution is now ready for use. Pour a sufficient quantity carefully on the sheet of paper, and spread it uniformly over the whole with a pad. The pad I use is made by winding prepared cotton around a bottle with the bottom knocked out. When spreading the silver on the paper, rub gently, and as little as possible, yet have a care that the whole surface of the sheet has attention.

TONING AND FIXING THE PRINTS.

Hyposulphite of Soda, . . .	8 ounces.
Chloride of Silver, . . .	60 grains.
Chloride of Gold, . . .	15 grains.
Water, . . .	1 quart.

Immerse the prints without washing, ten minutes, or until they are properly fixed and toned. Finally, wash the same as albumen prints are washed.

EDWARD KRUSE,

Bogardus's Gallery, New York.

January 11th, 1870.

Mr. Kruse is one of Mr. Bogardus's most devoted helps, and for over ten years has given his energies to plain-paper printing. His counsel then comes as from one who knows how to teach.

S. P. VAN LOAN'S PROCESS FOR ALBUMENIZING PORCELAIN GLASS.

Having given much attention to the making of porcelain pictures for the past three or four years, and finding at the start that I had but little given me to work from that was reliable, the various receipts then known and published not giving permanent or satisfactory prints, I left the beaten track and entered into a series of experiments to endeavor to get a perfectly reliable collodio-chloride, or, to be more plain, a solution in which alcohol and ether could be made to hold a given quantity of silver without precipitation or decomposition. The task has been a hard one; defeats often. But, not to be baffled, I persevered, and perfect success followed. I have solutions of collodio-

chloride months old, and no precipitation of silver can be seen, the solution working as perfectly as when first made. I do not intend to give this part of the process to the fraternity at present, as I think I ought to have some return for the time and trouble spent in its discovery.

The preparation of the albumen and the coating of the glass for the *chloride* I give below, and, unless this part of the work is done in a thorough manner, no success can be expected, for this is the ground of the work.

ALBUMEN FOR THE FIRST COATING.

I take the whites of 8 fresh eggs (*store* eggs will not do), hold them up to the light and remove all bits of the germ and other foreign matter. I use an 8-ounce graduate to break the eggs in, and, as each white is about equal to an ounce, I have about 8 ounces of albumen. I now dissolve 12 grains of clear table-salt in 1 ounce of water, and add to the albumen. I now beat in a dish until the froth is so stiff I can overturn the dish without spilling any of the albumen. I then set it aside over night to settle, and in the morning pour off the clear part into a graduate, and again allow it to settle. I draw a piece of tissue paper over the surface always before using, to remove dust, bubbles, etc.

To clear my porcelain plates, I use rotten stone, water, and a cotton-pad. While the plates are still wet (though drained), from the washing, I pour the albumen from one corner, taking care to have it flow evenly and to avoid bubbles. Pour the excess into a bottle to throw away, and never pour it back into the stock-bottle. Stand the glasses on nails to dry on the edges, and not on the corners. The longer the plates are albumenized before using, the less liable are they to blister on the surface when fixing, therefore it is best to albumenize a good lot ahead. I now coat with my collodio-chloride, and, when they are *perfectly dry*, fume them from 5 to 15 minutes, according to the weather. Print a little stronger than paper prints, and wash well before toning. Any weak toning process will do. Tone until slightly blue by transmitted light, and wash well before fixing. Be sure the toning bath is not in the least acid. The

* The same filter may be used repeatedly until worn through.

hypo bath must be weak and contain one-quarter salt. Leave the plates in long enough only to get the color you like, then remove, *wash WELL*, and dry.

In using ground-glass the albumen may be reduced in strength one-half with water, but add the salt, $1\frac{1}{2}$ grains to each ounce in bulk. After printing, wash under running water full 15 minutes, to get rid of the free nitrate of silver left in the pores of the glass, and then tone and fix as usual.

Many have been troubled with ground porcelain turning dark in the light after finishing, but thorough washing, as above directed, before toning, will end all the troubles in this direction.

Those who desire to try the collodio-chloride, can do so by addressing me at Bogardus's gallery, 363 Broadway, New York. It is put up in half-pound bottles, \$3.

S. P. VAN LOAN.*

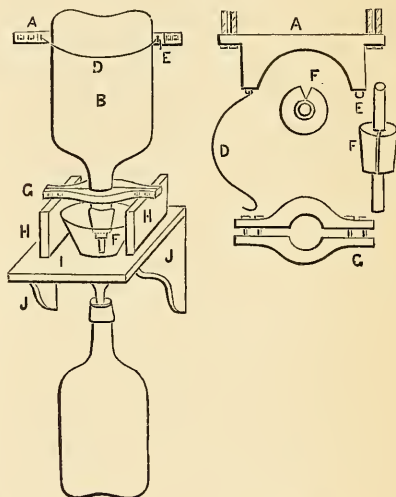
January 11th, 1870.

KURTZ'S FILTERING APPARATUS.

WITH this I send you the drawings of my filtering apparatus with full directions for its construction.

Let A represent a piece of wood about 1 inch thick, and a half disc sawed out, half the circumference of the demijohn, B. There is also a piece of soft wire, D, fastened at one end of the piece of wood, A; at the other end it is bent so as to hook into the screw eye, E, and thus keeps the inverted demijohn, B, in its place. This piece of wood is fastened at the proper height to any convenient wall of the apartment. The demijohn, B, capable of containing the entire solution of the bath, is provided with a cork, through which passes a glass tube about 3 or 4 inches long and a quarter of an inch in diameter; a portion of the cork is also cut out, as represented in the drawing, F. Around the neck of the demijohn are two pieces of wood joined together which inclose the neck, G. The demijohn being charged with the solution and corked, is in-

verted over a funnel containing the filter. The uprights, H H, support the piece, G, and keep it from resting on the funnel. This funnel rests in a hole cut out of the shelf, I, which latter is supported by the brackets, J J, which are, like the piece A, fastened to the wall. The lip of the funnel either dips into another similar demijohn or, if you prefer, into the bath-holder. You will observe that the instant the demijohn, A, is inverted the solution commences running out, and the air-bubbles in, and the solution would eventually all run out, were it not for the fact that *the mouth of the demijohn dips below the top of the funnel*, consequently



as soon as the solution *reaches the cork* in the demijohn, the atmosphere is cut off from entering the hole in the cork, and thus matters come to a standstill *until* sufficient solution has run through the filter to again allow the air to enter the demijohn, when the solution runs out as before, etc., etc. Should your bath consist of 3 or 4 gallons of solution, which would require many hours to filter, you have merely to start this simple piece of work at night when you go home, and in the morning the work is done. Hoping this may have been clearly explained, I shall at some future day describe many more just such pieces of apparatus in daily use in my gallery.

W. KURTZ,
872 Broadway.

January 7th, 1870.

* Mr. Hugh O'Neil (firm C. D. Fredericks & Co.) has also kindly furnished us with his formula—too late for this, but will appear in our next issue, with others.

OUR PICTURE.

OUR picture this month is the one of the composition or *genre* class, for which the gold medal was awarded by us last November, as being the best of all its competitors. It was, as we have before announced, made by Mr. M. M. Griswold, Columbus, Ohio, and we think we will not offend the others when we say we look upon it as the best of all the pictures sent for competition. That Mr. Griswold has displayed much care, thought, taste, knowledge, patience, and skill, that he *tried hard to win the prize*, is very decidedly proven by the picture. We have agreed to call it "Blowing Bubbles." The occupation of the two little cherubs, no doubt, brings vividly to the minds of many of us, recollections of just such scenes as our picture represents. It is charmingly natural and lifelike, and shows what a beautiful picture can be made with the commonest and most ordinary accessories.

When our next prizes are offered, we *do hope* that more of our talented subscribers will *try to make pictures* and secure the prize. *Do your best*, and we ask no more.

There are several other very meritorious pictures in the *genre* class, all of which would make good illustrations for our Journal, but we think those who made them can do still better, and we give them another chance this month to try. Among those we speak of, are the pictures by Messrs. Merz, Inglis, Tripp & Schellhouse, Forest, Vail & Elton, etc., etc. Let them try again. Those who desire to see good and bad work, so as to know what to follow and what to avoid, should get sets of the prize prints, and study them with the criticisms of the judges.

We now close with a detailed statement from Mr. Griswold of his *modus operandi*, which we have asked for, as suggested by a correspondent last month:

DEAR SIR: The medal was received without delay, and I am much pleased with it. In compliance with your request I will give you the *modus operandi* by which the bubble pictures were made. The lens used was an extra 4.4 Holmes, Booth & Hayden, of the old make, and, with the exception that it may be somewhat slower, will compare favorably with Dallmeyer's,

Willard's, and others of the best modern brands. The size of the stop was 2 inches; time of day, about eleven o'clock; distance from the lens to the subject about 18 feet; time of exposure, about 20 seconds. Collodion, ether, and alcohol, equal parts; iodide of ammonium, 5 grains; bromide of cadmium, 2½ grains; Anthony's cotton, 5 to 8 grains, or to the proper consistency. Developer, very strong, viz.: proto-sulphate of iron, 6 ounces; water, 64 ounces; sulphate of iron and ammonia, 1 ounce; sulphate of copper, ¼ ounce; acetic acid, 1 ounce to every 4 ounces of solution. My silver bath ranges from 35 to 45 grains. It could not have been over 35 grains when the prize negatives were taken. I am very much cramped for space in my light-room, and, in order to get distance, had to cut an archway into another room to get range for the camera. The shape of the building is such that this archway could only be made about the middle of the room, and not as near the side-light as I would have desired. My light faces the north, and is about the usual form, with the exception that the side-light runs into the corner of the room about 3 feet nearer the wall than the top-light, and is of clear glass, while the top-light is of ground-glass. The background I use is the wall, east end of the light-room, painted in oil of the usual background tint, and flattened with wax and turpentine in the color. For screens overhead, I use four frames made of light tin tubes and covered with white tissue-paper, the bottom ones sliding close to the glass on wire, one under the other, so that they can be slid entirely away from the light when necessary. The top ones swing on hinges back against the flare of the ceiling. Contrary to accepted ideas, I have my side-light screened with black curtains in four parts, so arranged that any part or the whole of the light can be shut off; the side-light running into the corner beyond the skylight, enables me to throw the light on the background behind the sitter, and also to light the head behind, a useful arrangement in getting the so-called "Rembrandt effects." The shape of my room is such, that I can work only towards the east. It often happens that I wish to throw the right side of the head in shadow; this can readily be done by covering the side-light and lighting the other side of the face from the top of the sky-light.

In the composition of the bubble picture, I have attempted to show that pretty pictures can be made of simple every-day subjects. Of course, some study and a large amount of patience are necessary, especially when small children are the subjects. To know just how much to put in

and what to leave out, in the make-up of such compositions, that they may appear natural and not made up, requires some artistic, or, to say the least, good taste. The first thing to do is to conceive the subject and form the picture in the mind, and finally build it up before the camera; accessories will suggest themselves as we progress. No exposure of plates should be made until the picture is seen complete in all detail upon the ground-glass of the camera. Finally, common sense, good taste, and skilful manipulations are the requisites which will succeed with any good chemical formula.

M. M. GRISWOLD.

COLUMBUS, O.

The prints were made by Mr. William H. Rhoads, No. 1800 Frankford Avenue, Philadelphia, on Trapp & Munch's celebrated albumen paper. Mr. Rhoads deserves considerable praise for these prints. They are very regular, although made at the season of the year when the weather is very uncertain.

As many have no regular formula for working this paper, we submit that by which Mr. Rhoads secured his excellent prints.

SILVER BATH.

Water,	1 ounce.
Silver,	40 grains.
Alcohol,	1½ drachms.
Liquor Ammonia,	2 " "

When you want to replenish, add silver, water, and alcohol, in the above proportions, and about one-half the amount of ammonia.

TONING BATH.

Water,	24 ounces.
Acetate of Soda,	45 grains.
Salt,	45 " "
Chloride of Gold,	3 " "

Neutralize the gold before adding with bicarbonate of soda. Use three or four days by adding gold each day, then make a new bath.

Portrait photography is said to have progressed and improved immensely in England during the last year or two—the result of the frequent exhibitions held there. So it will improve here immensely if photographers will earnestly take hold and help make our next Exhibition worthy of us.

NOTES IN AND OUT OF THE STUDIO.

BY G. WHARTON SIMPSON, M.A., F.S.A.

Monckhoven's New Artificial Light for Enlarging—Collodio-Chloride Transparencies—Progress in Carbon Printing—Keeping Dry Plates—Mixed Iron and Pyrogallie Acid Developer—Photographic Mechanical Printing Process—Photographic Mosaics, 1870.

ONE of the most interesting photographic events of the month, was the practical demonstration of the value of the new artificial light and enlarging apparatus, before the Photographic Society of London, by Dr. Van Monckhoven, who also read a copious and interesting descriptive paper. Tennyson tells us that "things seen are mightier than things heard," and unquestionably a practical demonstration is at all times more instructive than many descriptive papers. Possibly the use of artificial light for enlarging purposes may scarcely possess the same interest and value in a climate like that of America, that it does in the more changeable climate, with the less brilliant and constant light of this country. Here, with the uncertainty of direct sunshine for any continuous period, except in the few summer months, the question of artificial light, applicable to photographic purposes, especially enlarging purposes, possesses great interest.

Dr. Monckhoven's night light consists of the oxyhydrogen light, with pillars of pure carbonate of magnesia instead of lime cylinders. The result, at the demonstration in question, was a light with the chemical intensity of the ordinary magnesium light, without its unsteadiness and irregularity, and at a less cost; or, in other words, it was a Drummond light with a much higher actinic power than that of incandescent lime. The light was intense, concentrated, actinic, steady, and continuous, supplying all the conditions requisite for photographic enlarging operations.

The enlarging apparatus, which is, in general principles, similar to a magic lantern with the necessary special modifications to suit the light, has already been explained to your readers by our friend, Dr.

Vogel. A couple of flint-glass plano-convex condensers of short focus are employed, the flint-glass being selected in preference to crown, which is commonly used for condensers, because Dr. Monckhoven has found that the latter has the property of absorbing a considerable portion of the actinic rays emitted by artificial light at a low temperature.

In the course of his demonstration, Dr. Monckhoven produced two very excellent enlarged negatives; the first on a fifteen inches by twelve plate, from a collodio-chloride transparency, somewhat less than card size. This was effected on a wet collodion film by an exposure of six seconds, the result being a perfect and well-exposed enlarged negative, with excellent gradation and sufficient intensity. The second experiment consisted in producing from the same transparency a paper negative on a whole sheet of paper. The paper was prepared with iodide and bromide of potassium, $7\frac{1}{2}$ grains of the former and $2\frac{1}{2}$ grains of the latter in an ounce of water, and floated on a bath containing 35 grains of nitrate of silver and 35 minims of glacial acetic acid in an ounce of water, exposed wet. With an exposure of considerably less than three minutes, an excellent negative was obtained on developing with a 1-grain solution of pyrogallie acid, containing 2 grains to the ounce of citric acid. Notwithstanding the difficulties attendant on delicate experiments of this kind in a lecture-room, where all the arrangements have to be improvised, the success here was complete.

Collodio-Chloride Transparencies—I had a very interesting conversation with Dr. Monckhoven, on a subject of a somewhat extensive series of experiments he has recently made with the collodio-chloride of silver process. He states, in the first place, that for the production of enlarged negatives, he finds the collodio-chloride of silver transparency very much superior to any transparency produced in the camera on wet collodion. But the chief object of his research, in connection with my process, has been to overcome a tendency to solarization which often occurred in deep printing. Many of your readers may be familiar

with the fact that, in certain conditions a collodio-chloride film, instead of progressing in blackness or bronzing, from long exposure, has a tendency to become of a light reddish-brown tint, and finally tends to bleach rather than to darken. The remedy the Doctor has found for this, consists in fuming the film with ammonia before exposure. His formulæ and mode of working have already appeared in your pages, and I may remark that he attaches considerable importance to strict accuracy in following out his instructions. Certainly his transparencies are some of the finest I have seen.

Keeping Dry Plates.—A very comprehensive and satisfactory practical test of the value of dry plates and of certain facts in connection with them, has recently been made by my friend, Mr. England, who, as you probably know, is one of our most experienced and trusted landscape photographers. I speak of the trust his word commands not merely because he is a man of much experience and great probity, but because he is a very skilful and careful experimentalist, and a shrewd observer, who is not easily led away by the apparent promise of excellence. Everything he takes in hand is subjected to a thoroughly searching practical test before he pronounces an opinion upon it. Photography has suffered much from an opposite class of experimentalists, men whose great aim is to announce some new and startling thing. These are they who, having performed an experiment at the writing-desk and worked out a theory on paper, announce discoveries which are to revolutionize photography, but of which photographers rarely hear much more than the first announcement.

Mr. England is not one of these, and as he has very thoroughly tried most of the recognized dry processes, including some of his own, his dictum is valuable. During the past summer, in Switzerland, he has produced several hundreds of most admirable negatives on dry plates, the series being marked by a singular uniformity of excellence. The process he has worked, and which he now prefers to all others, is Mr. Gordon's gum-gallic process, using the alkaline developer in preference to the iron

solution recommended by Mr. Gordon, chiefly because it permits development after a longer interval between exposure and development than the iron solution. But there is one point upon which he has come to a very definite conclusion during the summer: it is, that dry plates by every process suffer considerably in sensitiveness by keeping, either before or after exposure. A conclusion similar to this has frequently been arrived at by individuals; but the gum process has had the reputation of possessing extraordinary keeping qualities. I believe it really does possess better keeping qualities than other sensitive dry plates; but Mr. England is satisfied that a steady and constant deterioration goes forward. When the plates were freshly prepared he found that an exposure of twice the time required for wet plates was sufficient; but at the end of a week they required an exposure of three times the time required by wet plates, and so progressively. This accords with the experience of Mons. Ferrier, whose fine instantaneous stereographs are well known. He informed me that he frequently obtained in a good light, and with a suitable subject, instantaneous negatives on collodio-albumen plates; but that for this purpose they must be absolutely freshly prepared, much of the sensitiveness being lost if exposed on the second day. This fact seems to deprive dry-plate photographs of at least one element of value, as the possibility of keeping plates prepared during a journey of a few weeks was one of the great charms of the dry processes.

Mixed Iron and Pyrogallie Acid Developer.—The practice of mixing the iron and pyrogallie developer for the purpose of securing the short exposure, without loss of detail of the one and the density and vigor of the other, is an old one; but the rapid decomposition of the mixture has militated against its popularity, and it has never come into general use. A recent observation made by Col. Stuart Wortley may tend to bring it into greater use and reputation. Few of the pictures in our recent exhibition excited greater interest than a magnificent series of sea and cloud pictures on plates 16 x 12 by Col. Stuart Wortley. The effects of light and shade, cloud and atmosphere, were very marvellous, and the exposures

manifestly instantaneous. In the course of conversation as to the means of production I learned that he derived many advantages from the mixture of these two developers, and that he was enabled in the course of his experiments to determine the cause of the rapid decomposition of the mixture, and so avoid it. Whenever the solutions were old when mixed, the decomposition and precipitation took place almost immediately; but if the two solutions were made new and then mixed, no decomposition took place, and the solution kept exceedingly well. I subjoin a few remarks on the subject by Col. Wortley, in a subsequent communication to me, in which he indicates his mode of dealing with the developer.

"I find this invaluable, not only for cloud pictures, but for ordinary work as well. It has a remarkable power, used in conjunction with formic acid, of developing detail combined with due density, and gives a more harmonious negative at one operation, and with no necessity for after-intensification, than I have as yet been able to obtain by any other means.

"I prefer to keep the iron and pyrogallie solution mixed separately, so that I can mix them in the required proportions for each plate; but they keep perfectly when made up ready to use, making a clear greenish-colored solution. When either of the two solutions is old, the mixture rapidly decomposes.

"I may mention that for portraiture in a weak light, this developer is of great use, giving softness and intensity under conditions in which the usual developers would work with great difficulty. It is, in fact, according to the proportions in which the two solutions are originally made up, and afterwards mixed, of value at all times, and under all circumstances."

Mechanical Printing Processes.—A flood of photo-mechanical processes has poured forth of late, in which singularly little progress is manifested. With the exception of Woodbury's and Albert's, none as yet can compare with photography proper, and both these continue to make progress. Mr. Woodbury has recently sold his Belgian patent to Messrs. Simonau & Toovey, who have for years been working photolithogra-

phy with so little satisfaction, it would seem, that for many purposes they now intend to substitute Mr. Woodbury's method for it.

Photographic Mosaics.—I have been recently much pleased in glancing over your "Mosaics" just issued, and I must congratulate you, and those who are fortunate enough to possess it, on its more than usual excellence. Although I cannot confess to being an old man, I sometimes feel an attack of old fogysm stealing over me, as I look at such volumes, and sighing, say to myself: "Ah, if only some one would have issued such works, embodying even the little then known, twenty years ago, for the guidance of young photographic students, such as I then was!" I think I may add, without being guilty of egotism, that it is a source of some pride and satisfaction to me to reflect, as I see photographic annuals issued in America, France, Germany, as well as this country, as a necessary and highly prized institution, that all these had their parentage in the *Year Book* I first issued upwards of ten years ago, and in the *Almanac* which was then incorporated with it. May the shadow of any of the annuals never be less.

LONDON, January 14th, 1870.

THE PHOTOGRAPHIC WORLD.

THE *Photographische Notizen* is the name of a new photographic journal in Vienna.

M. PERSONNE avers that pyrogallie acid is quite as poisonous as phosphorus.

THE original manuscript of Burns's "Tam O'Shanter" has been photolithographed.

POITEVEN claims to have invented the "Albert process."

MR. LEA receives special congratulations and commendation from the *British Journal*, for his Chloro-Bromide Process.

REUTLINGER, in Paris, has been exposing as much as 40 and 50 seconds during the late dull weather.

A DARKEY serenader, in London, has been fined one farthing for assaulting a photographer.

A YOUNG British officer having fallen in love with the photograph of a young lady in Minnesota, entered into correspondence with her. Result, the marriage of the two. What will photography not do?

OUR three English contemporaries, the *News*, the *Illustrated Photographer*, and the *British Journal*, all issue an annual this year, similar to our *Mosaics*. There is so much now that *every photographer ought to read*, that even weekly journals cannot contain it all. These annuals contain the "milk and honey" and the "strong meat" of the year in concentrated form, and are very handy for reference.

THE "*Archiv*" contains the following simple way of preparing collodio-chloride of silver. The chloride is dissolved in clear plain collodion, and the fused nitrate of silver is added.

The plain collodion is prepared as follows:

Alcohol, . . .	100 cubic cent.
Gun Cotton, . . .	2 grams.
Ether, . . .	100 cubic cent.
Paproyxylene, . . .	2 grams.

The paproyxylene is added when the cotton has been dissolved.

In 500 cubic cent. of the settled and clear collodion 2 grams of chloride of cadmium are dissolved, and 10 grams of fused nitrate of silver are added, the whole is well shaken until all the silver has dissolved.

For glass transparencies 4 grams of citric acid are added. Transparencies require a substratum of gelatine or albumen, or they will lack strength.

PROF. C. PIAZZI SMYTH, at a late meeting of the Edinburgh Photographic Society, exhibited a large number of enlargements from his Pyramid negatives in the lantern, and, by ocular demonstration, proved the assertions of the enlightened Col. Sir Henry James to be merely "a pile of dirt, which can easily be removed with the hands."

A NUMBER of specimens showing the action of sunlight on glass, the result of Mr. Gaffield's experiments, were shown at the December meeting of the French Photographic Society, and much praise was given Mr. Gaffield for the thoroughness of his researches.

T H E

Philadelphia Photographer.

Vol. VII.

MARCH, 1870.

No. 75.

Entered, according to Act of Congress, in the year 1870,
By BENERMAN & WILSON,

In the Clerk's office of the District Court of the United States for the Eastern District of Pennsylvania.

THE EXHIBITION

OF THE

National Photographic Association of the United States.

THE following circular has been printed in German, French, and English, and sent abroad to foreign photographers. That none may be missed we reprint it here. Will our foreign exchanges please oblige us by copying the same, viz.:

THE NATIONAL PHOTOGRAPHIC ASSOCIATION OF THE UNITED STATES will hold its SECOND ANNUAL EXHIBITION in Cleveland, Ohio, beginning Tuesday, June 7th, 1870.

You are cordially invited to expose examples of your work on that occasion. Ample space will be granted in the best light, *free of charge*, to all foreign exhibitors.

It is expected that a grant from Congress will allow the entrance and return of foreign specimens free of duty. Parties who desire that what they send should be *sold* for their account and not returned, will receive the best attention to their wishes. In all cases, *two itemized invoices* should be sent to the Secretary, and notice as to date of shipment, name of steamer, &c. The freight must, in all cases, be prepaid. Packages should not be sent later than April 20th, and should be directed as follows:

NATIONAL PHOTOGRAPHIC EXHIBITION.

Care EDWARD L. WILSON, Secretary,
PHILADELPHIA, U. S. A.

☞ Via Steamer to Boston.

The Cunard Steamers sail from Liverpool, England, for Boston every Tuesday, and those of the Inman Line every alternate Saturday. Freight is £1 2s. for moderate sized packages. Many Americans visit your country, and this will give you a good opportunity of advertising your work. Further information cheerfully given on application.

We hope you will respond to our invitation to join us in this grand Exhibition.

For the Executive Committee,

EDWARD L. WILSON, Secretary,
Office Philadelphia Photographer,
PHILADELPHIA, PA.

American photographers who intend to exhibit will be given full instructions probably in our next issue. There will be nothing to retard any American or Canadian photographer from exhibiting freely, *whether a member of the Association or not*. The Exhibition is a *National* one and *all* are invited to participate freely. Fuller details as soon as the Executive Committee and Local Secretary are able to complete their arrangements.

THE SOLAR NEGATIVE PRIZE.

OUR readers will not forget our offer for the best solar negative, made in our last issue. The time expires on March 15th.

The successful competitor will be announced in our next issue. We hope for some fine negatives to be sent, for we want

to see some fine solar work at the Exhibition.

Competitors can trust Mr. Moore to render them full justice, and those who prefer to *lend* their negatives to entering the competition, will have the greatest care taken of them.

The negatives should be well packed, and in all cases the carriage must be paid. Please read over the conditions of the offer, and be prompt in sending the very best you can produce.

THE PRESIDENT ON THE EXHIBITION.

TO THE EDITOR OF THE PHILADELPHIA PHOTOGRAPHER.

I wish to give to you and the fraternity *my reasons for attending the Annual Exhibition of the National Photographic Association* to be held at Cleveland, Ohio, in June next.

1st. I believe we shall all be greatly benefited by being more closely united as a body of men engaged in developing one of the greatest and most useful discoveries of the age. Let us all feel that everything tending to advancement is for the good of *all*. Let us show a willingness to assist each other in perfecting ourselves in every branch of the art; let every member of the Association be ready to aid even the most humble member in his endeavors to advance, for by so doing we shall be raising the whole profession and advancing the interests of *all*.

We have too long continued in the old tracks, each one believing himself to hold the secret of success and to be the embodiment of wisdom and perfection. I have, in several instances, known such men to wake up some morning and find a despised rival turning out work that astonished them, and they in turn were compelled to put on their "thinking caps" and try to get hold of their rival's secret. Now, gentlemen, we have had enough of this. You may succeed in one part of the process where I fail, and again I may succeed where you fail. The fact is *we all need teaching*, and we cannot do a better thing than to meet together once in the year and compare notes. Let us

show our best work, and if you beat me this year I shall try and beat you the next, and *vice versa*.

2d. I shall attend to hear the discussions on the many subjects in which the whole profession is interested. How to build sky-lights, whether large or small, whether high or low lights are best, whether sloping or flat, at which point of the compass to face them, etc., etc. I am now using four different lights, and believe if I had to build another I should make it different from any of them. This subject I hope to hear fully discussed. I hope to hear the advantages of the different modes of manipulating shown by the leading and most successful operators. I hope to hear what is doing to render the photograph *more durable*. We all know the dissolving nature of the silver prints, and are all anxious to make them permanent if possible. Let us see what we can offer on this subject. *It must be done*, and the sooner the better. I expect to see all the newest improvements in apparatus and machinery exhibited. The whole process is now too complicated, difficult, and uncertain. We need *work-perfecting* as well as *labor-saving* apparatus. Bring along everything new and show it to the men gathered from all parts of the Union, and if it is good and desirable, we shall all want it, and you cannot have a better opportunity to show it.

Again, I shall attend to see what the photographers of Europe will show us. Many things new and beautiful I have no doubt will come across the ocean, and we will never have a better opportunity to see what they are doing. I shall attend to meet and take by the hand men well known by reputation, but whose faces I have never seen. I believe the East will be largely represented. I hope to meet many well-known names from the South, and surely the West will send her young giants in scores. I want to see them all.

And now, one word about the Boston meeting last June. I learned much and saw much while there, and I have not seen the first man who was sorry he was there. On the contrary, all expressed themselves delighted and benefited by the liberal views and unselfishness of the gentlemen composing that Convention, and I have no doubt

they will almost to a man be at Cleveland next June.

I am what might be called an old fogey in the profession, but I cannot consent to have my younger brethren outstrip me in the attempt at advancement, and you may count on me as putting my shoulder to the wheel to lift our art *higher* and *HIGHER* to the perfection to which I believe it is tending. Life, health, Providence, and the railroads permitting, I shall be at Cleveland.

Yours, respectfully,

ABRAHAM BOGARDUS.

1153 Broadway, N. Y.

From one of the Executive Committee.

DEAR MR. EDITOR: Do you imagine that all the members of our National Photographic Association realize that over eight months of the year have passed since our meeting in June last? And how many of them have commenced making preparations for the next "Grand Exhibition?"

As the time will soon be here, perhaps another reminder to the craft generally may be of some service, and they profit by it, and commence at once making their specimens while there is time. Our last Exhibition was a grand success, and we feel assured from the efforts that are being put forth that the next will not be behind its predecessor. Let us work with a will to make it so, and take pains to make it, if possible, even superior.

I trust that every convention held will prove more profitable to the members, both in the fine exhibition of their work as well as *practical* hints to be obtained that will be of real substantial benefit to the members when they shall have returned to their studios.

Magic lantern exhibitions and able lectures on chemistry and other subjects connected with our art are always acceptable to the craft, but I doubt if either would be relished as well as spicy debates on everyday subjects connected with our daily practice in the profession, with which none are so well versed but what they might learn something new even from a tyro in the profession.

There are so many subjects connected with

the practice of photography, upon which we can all gather new ideas, that I suggest at our next meeting we discuss a few of them.

Practical hints on the "retouching of negatives" would be a good subject. If necessary let a few members bring negatives, with prints from the same, then after being retouched compare them; the best formula for collodion for indoor work, with specimens to show its value; the best general developer. Lectures on *failures* with negatives and prints to illustrate. All will readily see that there is no end to the subjects that could be discussed, and of how much practical benefit they would prove to the mass of hard-working photographers.

I am very glad to hear we are to be treated to another view of fine foreign work. From them we can gather new ideas and impulses and strive to do still better.

Our local Secretary is a *host* in himself, but the preparations he is making will accommodate a still larger one with all their "traps." *Cleveland* as a *beautiful city* cannot be surpassed *we* think, and then to think of the good things in store for us who go. Let those who thought they enjoyed the fine ride in and around Boston be sure and go to Cleveland, and they will not be disappointed by not enjoying themselves as well as being benefited.

Photographically and fraternally yours,

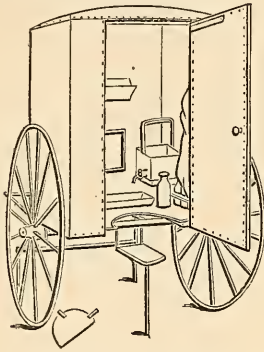
WALTER C. NORTH.

UTICA, N. Y., Feb. 7th, 1870.

We are glad to see these spontaneous outbursts from the officers and members of our National Association. We believe it will be the plan of the managers this year to have no lectures of any length, but to devote a short time each day to the business of the Association, and the rest of the time to practical experiments, demonstrations, and discussions pertaining to subjects that will *come right home* to every working photographer. Whenever a photographer has a novel source of failure or a negative well illustrating any evil, let him save it and bring it along. Also any models, prints, etc., that will interest or benefit the whole. Time will be given to all. In our next we hope to give a more extended synopsis of the programme.—ED. P. P.

PORTABLE CHEMICAL ROOM.

THE season for landscape work is approaching, and we propose, for a few months, to give some hints as to the paraphernalia needed for that class of photographic work. We begin with a description of a very handy portable chemical room, contrived by Messrs. French & Sawyer, Keene, N. H.



The drawing above, represents a rear and interior view of the contrivance, which is very plain. The body of the cart is 2 ft. 8 in. long, 2 ft. 10 in. wide, and 3 ft. height. The top is arched one inch. The body is a mere skeleton frame covered with green enamelled cloth. The semicircular piece cut out of the bottom, is to accommodate the person of the operator when the door is shut, while manipulating, and he sits on the seat seen in the cut. When not in use a board is fitted into this semicircular cut in the bottom, the seat is put inside, etc., etc. The shafts project 3 ft. 6 in. in front, with a cross-bar to draw by hand or to fasten to a carriage when going long distances. The wheels are 3 ft. 6 in. in diameter.

The inside is fitted with all necessary baths, bottles, etc., and with a little water tank, 10 in. long, 8 in. wide, and 6 in. deep, to which a faucet is fastened. We are assured by Mr. French that it answers admirably and that it *pays*. It is so light any boy can draw or push it, and it can be cheaply made by any one having the time, the wheels and axle being supplied and they are easily obtained.

Enamel Photographs—Burnt-in Photographs.

BY PROF. J. TOWLER, M.D.

THE reader at the outset must correct a mistake, into which he most probably has already fallen, of comprehending under the head of enamelled photographs, photographs on paper glazed with a layer of collodion, gelatine, &c. Let these be called by their proper name: glazed photographs. Enamelled photographs are pictures taken by the lens on a porcelain base, developed by an enamel powder, which is afterwards fused, in a muffle in the cupel or assay furnace, into the porcelain as a background, and thus becomes a part of the material and equally as imperishable. The art of thus burning-in photographs has attained already a considerable degree of perfection in the hands of a few; and from the facility and certainty of the process, it is somewhat surprising, that *so few* have embraced the process as a business. Of all photographs, the enamelled photograph is the most imperishable, and, at the same time, about the most beautiful; and certainly this is so, when the art of the limner co-operates with the manipulations of the photographer.

The white surface of a watch-face, on which the hours, &c., are delineated, is an enamelled surface; and if a photograph be taken on such a surface and afterwards, by fusion in the fire, it can be blended with the substance and become a part of it, then such a photograph is called an enamelled photograph. Solomon and Garnier, Joubert and Poitevin, have given us processes by means of which photographs can be taken that *admit* of being burnt-in, or fused into a porcelain or enamel base. Solomon and Garnier, I believe, were the first to call attention to a peculiar property of the chromic salts in mixture with saccharine or gummy solutions, whereby these *lost their stickiness* when exposed to light. Working upon this principle as a base, the authors just mentioned, as well as Joubert, Alker, and Geymet, Lucy Fossariere, and some others, have so far perfected processes in carbon printing as to apply them in enamel

“It is good enough” is a bad adage.

printing or vitrification with great success. The principle is this: a composition is made, of course in the dark-room (yellow-room), of water, bichromate of potassa, sugar, honey, and gum. This represents the collodion; it is filtered two or three times, and then poured, exactly in the same manner as collodion, over a glass plate. The film is then dried. Even when dry, the surface attracts or adheres to fine powder as of charcoal, enamel, &c., with much avidity, by reason of a certain amount of moisture or glutinosity in the film; but if it be exposed to sunlight for a few seconds, the film loses this glutinous character, parts with its moisture, and, consequently, no longer adheres to the powders above mentioned. If a negative, therefore, be placed over such a film, all the dark parts, such as the sky in a landscape, and the face in a portrait, will prevent the light from acting upon the film beneath; these parts, therefore, retain their original character of adhering to charcoal powder, and will exhibit dark parts in the film corresponding to the dark parts on the negative. Thus negatives produce, on such prepared films, also negatives; and positives produce positives.

Poitevin's process is based upon the principle that tartrate of the protoxide of iron is hygroscopic, and that this substance can be produced by the action of light on the sesquisalts of iron in connection with tartaric acid. The representative of collodion in this process is a mixture of sesquichloride of iron, tartaric acid, and water, which is poured upon the glass plate and dried. In this state it is not hygroscopic, consequently, just the reverse of Joubert's plates, but becomes so where the light acts. It is thus evident, that negatives produce positives on such films, and positives produce negatives. Both these processes have been applied with success in the production of enamel photographs. Naturally these enamel photographs are monochromes, that is, they are printed in a single color, like all our uncolored ordinary photographs. The artist, of course, can work in, upon the monochrome photograph, whatsoever metallic colors he chooses, which can be brought out in the muffle in true lifelike colors, and thus produce those magnificent specimens

of cetamic art which we see executed at the potteries of Dresden, &c.

Now that I have described the principles upon which we have to work, in order to produce a burnt-in photograph on enamel and with enamel, I will proceed to the details of a working process.

THE PREPARATION OF THE POSITIVE.

A great deal of the success in enamel photography depends upon the original negative or positive used to make the impression. We shall follow Joubert's process; and, consequently, a positive is required. The positive must absolutely be on plate or perfectly flat glass; and the impression to be received on the chromic collodion must be also on plate glass; and if the positive is to be made from a negative by contact, the negative glass, too, must be perfectly flat. Use, therefore, nothing but plate glass in this process, as far as glass is needed. It will scarcely be necessary here to describe minutely how a good transparent glass positive is prepared; I have already done this in a preceding number of the *Philadelphia Photographer* of the current year; refer to the article in question. We will now proceed to the next part of the operation.

CHROMIC COLLODION.

Distilled water,	. . .	2 ounces.
Bichromate of ammonia,	. . .	100 grains.
Gum arabic (picked),	. . .	48 "
Sugar, loaf,	. . .	20 "
Honey,	. . .	9 "

This mixture must be made in the dark-room, and kept in the dark when not required for use. It is better to prepare it fresh for each operation.* Filter the solu-

* This fluid is very apt to undergo fermentation, hence, as observed, it is better to prepare it fresh; but Lucy Fossariere prepares his fluids and keeps them in stock ready for mixture as follows:

1. STOCK SOLUTION OF BORAX.

Pulverize a pound of borax and place it in a quart stoppered vessel; fill up the vessel with distilled water, and shake the mixture frequently for several days. The upper portion is to be used when required; and the vessel is then

tion two or three times through paper, or a tuft of cotton. Furthermore, receive the filtrate into a tall cylindrical vessel, and allow the solution to stand for about twenty-four hours before use. By means of a syphon the upper part of the fluid can be decanted off from the residual portion; but this must take place without shaking the vessel or agitating the contents. The upper part alone will be perfectly clean and free from all invaluable particles.

Before you coat the plate glass with this mixture, see that it is perfectly clean (no substratum of albumen, &c., is necessary); if the plate has just been cleaned and polished, breathe upon its whole surface, and, as soon as the film of breath has evaporated, pour upon it the chromic collodion, just as you would any ordinary collodion, and let the plate drain a few moments. Remove any excess from the lower corner and edges with a piece of blotting-paper, and then dry the film at a gentle heat, on a plate of iron

again filled up with water. In this way a saturated solution is always in readiness.

2. STOCK SOLUTION.

Dissolve in a two-quart bottle as follows:

Loaf sugar,	6 ounces.
Gum arabic,	2 "
Filtered water,	1 quart.

The mixture has to be shaken frequently for several days, until the gum is dissolved, and then a pint of stock solution No. 1 is added. Shake the mixture well up, and place away for use.

3. STOCK SOLUTION.

Mix together in a three-ounce vial as follows:

Honey,	1 ounce.
Borax (clear solution from No. 1),	1 "

Shake well and keep until exhausted.

4. STOCK SOLUTION.

Mix together in a three-ounce bottle as follows:

Bichromate of ammonia,	2 ounces.
Water,	2 "

Shake the water so as to obtain a saturated solution.

5. SENSITIVE LIQUID FOR PRESENT USE.

Boracic liquid (stock solution No. 2),	60 minims.
Bichromate " " " " 4,	40 "
Water, filtered,	106 "

N. B.—If the weather is very warm and dry, add three or four drops of the stock solution No. 3.

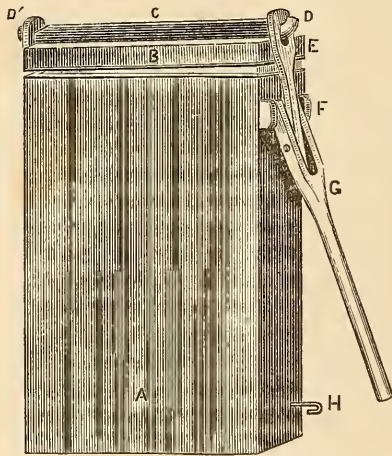
placed over the flame of a spirit-lamp. When dry it is ready to be exposed, and must be exposed right away, or nearly so, since it undergoes changes if kept.

(To be continued.)

Water-tight Covering for Field Bath.

BY A. F. CLOUGH.

I SEND you a model of a little contrivance I use as a covering or box for my field bath. A simple box A is made, plain as you please, to fit your bath. The lid B is made to fit the mouth of the bath and is supplied inside with a strip of rubber. This lid is pressed tightly and securely to the mouth of the bath by the contrivance which is made plain in the figure.



C is a rod or bar of metal running across the lid, and a hook at each end, D D'. The hook D' fits in a permanent eye fixed to the side of the box, and the other hook D is caught by an adjustable eye E, which is jointed at its lower end at F to the handle or lever G. It is plainly seen that when the parts are adjusted, if the lever G is pressed closely to the side of the box it will bring the adjustable eye to bear upon the hook D and thus press the lid down tightly, which may be kept so by fastening the lever by means of the hook H. I find it to answer admirably, and to work quickly. Any blacksmith can make the iron-work, and you can make the box yourself.

MYSTERIES OF THE NEW YORK DARK-CHAMBERS.

(Continued.)

AGREEABLE to our promise we append below the formulæ furnished us by Mr. Hugh O'Neil, a member of the firm of C. D. Fredericks & Co., New York.

There is probably no manipulator in the country possessing greater ability than Mr. O'Neil. He has grown up with American photography, and has been identified with it since its advent here. He is a gentleman who has no patience with pretenders, and those who do not use their brains, and contends that you may give the best formulæ and the best chemicals to a man, and if he has not good judgment and skill, his productions will be botches and blotches upon the fair fame of our blessed art.

Neither does he hold secret what he knows, and for these reasons it will be a pleasure to hear him.

Permit us to add that we have witnessed some experiments with Mr. O'Neil's formulæ by Mr. William Bell, of this city, and have found considerable advantage in treating the cotton as recommended by Mr. O'Neil. The exposure is shortened; there is entire freedom from structure in the film, and the color of the negative is remarkably pleasing, deep, and dense,—yet of fine printing quality. But Mr. O'Neil's work has a world-wide reputation, and we need not enlarge here. He writes:

My formula is very simple, and such as it is you are welcome to it.

COLLODION.

Ether,	12 ounces.
Alcohol,	12 “
Bromide of potassium, .	48 grains.
Iodide of ammonium, .	108 grains.

Mix the ether and alcohol together, dissolve the bromide in a little water, then add the iodide to it and dissolve in the same water. Add this solution to the ether and alcohol. Shake well, filter, and it is ready for the cotton, which I prepare as follows: I weigh the amount required and place it in a small dish; add about a pint of water and a drachm of strong ammonia, stir it well and let it stand for fifteen or twenty minutes, then wash it in several waters or

until the ammonia is washed out. I then wring it as dry as possible in a crash towel, then pour a little alcohol on it so as to displace the water and add it to the excited ether and alcohol. Filter as soon as dissolved and it is ready for use.

The results of taking the trouble to wash the cotton as above stated, are, quickness, a clean, handsomely colored negative, great depth in printing, and still it prints quickly. Any one who will try this method of preparing the cotton will continue to do so. Take cotton with which it is almost impossible to make a negative, prepare as above. It will make a nice negative and work in half the time.

THE SILVER BATH.

I use from 40 to 45 grains, neither under nor over. Iodize with a little *iodide of silver*, NOT iodide of potassium; make it a little acid with acetic or nitric acid, C.P., well diluted with water. Evaporate about one-third of the solution when necessary.

DEVELOPING SOLUTION.

2 ounces iron and 1 quart of water; enough acetic acid to make it flow smoothly.

For children use it almost double strength.

FIXING BATH.

Hypo. soda and a little cyanide. Fix quickly, and the result will be much finer prints.

SILVER BATH FOR PAPER.

Take half a gallon silver solution, 35 grs. to the ounce; add $\frac{1}{2}$ ounce muriatic acid. Shake well and add enough strong ammonia to make it slightly alkaline. Shake well, filter, and save the filter as long as possible. Every time you strengthen add a little acid and ammonia. If red tear-drops should appear, add a little nitric acid, C.P. and neutralize. This solution will silver any paper,—no matter how strongly salted—in one minute, and for most papers not over forty seconds are required. If floated too long it will have a weak look as if under-silvered. It prints quicker and finer than any solution I have ever used.

Fume with strong ammonia eight or ten minutes.

TONING BATH.

Pour the required amount of water in a

dish, add enough of concentrated solution of washing soda to make it slippery to the touch; add gold enough to tone in ten to fifteen minutes.

Take the prints out before they are toned, as they will dry up darker. With a little experience any tone can be produced. It will work as soon as made, and no matter how weak the negative is, there will be no mealiness, but a handsome silky print.

FIXING.

About one-half of the usual amount of soda, and about five minutes in the bath.

H. O'NEIL,
587 Broadway.

NEW YORK, January 15th, 1870.

After-Intensifications of Portrait and Landscape Negatives.

BY JOHN C. BROWNE.

THE habit among photographers of depending upon intensification to force negatives up to what they may consider a proper printing strength, is a very dangerous evil, well calculated to make them careless of their work and reputation. Prints from such negatives are generally masses of black and white, and may well be described as monuments to intensification.

The writer had quite recently an opportunity of examining a very large number of negatives from almost all parts of the United States, and it would appear from a careful study of their merits, that this injurious habit is an epidemic extending over a large portion of the country. The chemical sulphide of potassium was responsible for a large share of the spoiled work, but bichloride of mercury and its attendant ammonia were fairly represented. It will be a glorious day for photography, when its votaries will banish from their dark-rooms these chemicals. As things of the past they must now give place to a more advanced knowledge upon the subject of the chemistry of photography.

The intensifying of negatives is too often used to cover up such defects as dirty plates, under-exposure, over-worked chemicals, etc., but almost always at the sacrifice of

every particle of half-tone which is the charm of all pictures. Although opposed to intensifying as a rule, still I would make some exceptions.

Often it is difficult to obtain sufficient density in a negative by the application of the developing solution only. The chemicals that worked so well yesterday, for some reason fail to-day. Atmospheric influences may be the cause; but, chemical solutions are liable to get overworked, and need rest from their continued labors. Under such circumstances an entire change of chemicals may prove of advantage. But if an otherwise good negative should show signs of weakness, with no prospect of obtaining a better result by another trial, then it is of importance to add strength to make it worth printing.

There are many chemicals that will answer the purpose of increasing the density of negatives, and, provided that great care is exercised *to know when to stop*, negatives not worth saving are rendered capable of giving fair prints. Foremost among the number of strengthening solutions, I would suggest pyrogallic acid and silver as giving the most reliable results. Permanganate of potassium, iodine, silver, and citric acid, also prove in experienced hands worthy of consideration.

The object of this article, however, is not to discuss at length the chemicals that can be used for this purpose, but to seriously caution photographers not to depend so much upon the habit of universally strengthening negatives as is now the case. Let the aim of every operator be to get the right amount of intensity with the iron developer alone, and, by a rigid scrutiny of chemicals, light, etc. strive to make none but first-class negatives, clean, forcible, and well-lighted, without the use of any intensifying agent whatever. Depend upon it, that the less chemicals put upon the plate after the first development with iron, will be the better for all concerned.

KEEP the dust out of your camera; your lenses clean; wipe the dark-slide out often; keep your ground-glass in place when not exposing, and your lens capped or covered.

THE SHAW AND WILCOX PATENT.

THE work is going bravely on in the suit which the Shaw & Wilcox Co. have made against Mr. G. W. Lovejoy for using an old barrel in which to precipitate his wastes. Testimony is being taken of a most convincing nature against the "*pa-tent*," and the result we think will be favorable to the profession.

No better evidence of the insignificant value of the "Co.'s" contrivance and their style of doing business can be given us, however, than the numerous letters and personal accounts we have had and continue to have from our subscribers who have been victimized. But yesterday we were told by a photographer that all the return the "Co." made him from eight months' savings was "*one share of stock in the 'Co.' and three dollars and a half.*" During that eight months the photographer had purchased and used *eighteen pounds of nitrate of silver*. A most remunerative method of saving wastes that, of the "Shaw & Wilcox Co." Certainly.

We have also seen some sharp correspondence between Mr. Shaw and one of his fellow "stock" holders, and the following extract from one of Mr. Shaw's letters gives the *doctrine* of the "Co." What a "wide mouth" they open forsooth! Shall they be blessed?

BRIDGEPORT, CONN., Jan. 14th, 1870.

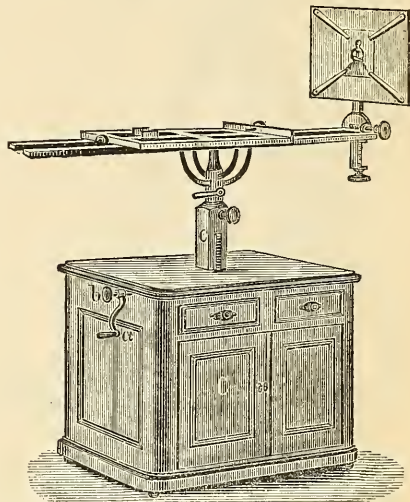
. . . . "What we claim in our patent is the saving and recovering of silver and gold from waste solutions by means of *precipitating ingredients*, without regard to what kind of a vessel it is saved in, or without regard to the substance used to precipitate with.

"All parties who recover their waste by precipitating it use our patent, and all who have not a license from us are now infringing and will be proceeded against by us just as soon as we get a decision from the court which will enable us to bring an injunction and shut up their galleries in case they refuse to settle. . . . All who do not send us their waste must pay us a royalty for the use of the patent."

"Just as soon!"—ED.

Knapp's Combined Camera-Adjuster and Copying-Stand.

THE want of some means by which copying can be readily done without much increase of apparatus has been nicely supplied by the contrivance which we are about to describe, and a cut of which we give below.



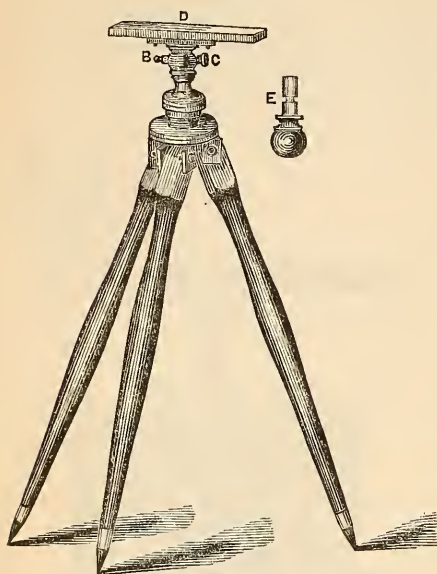
Here we have a steady, strong, and admirable camera-stand to which an extension-frame is added, with a plan board for holding the object to be copied, all mounted on a case with closet and drawers for the safe keeping of lenses, articles to be copied, etc., etc.

Every motion, every adjustment that one ever needs to suit the light to the object, the lens to the object, and *vice versa*, is supplied here by the mechanism of the apparatus, quickly. The nicest adjustments can be made and the platform may be lengthened or shortened at will to secure the distance required. Those parts needed in copying only, may be quickly removed, when we have a complete camera-stand, suited to a large or small box.

The whole arrangement is very complete and useful, and a more detailed description of it will be found given by the manufacturer in our advertising columns. We have examined the apparatus thoroughly. It is well and handsomely made, and will answer all that is claimed for it.

A STRONG AND USEFUL TRIPOD.

BY F. G. WELLER.



I NOTICED in a recent issue of this journal, a description of a tripod which has the convenience of being made adjustable to uneven ground.

Although it has advantages over the old style tripod used by most photographers, yet I think it inferior to the one I have used for two years; as my work is all outdoors and in all conceivable positions, from the bed of the rivers to the top of the highest mountains in New England, I found a tripod answering all the requirements, a thing not easily found; one that worked well in some situations and under some circumstances, was good for nothing at other times. After experimenting for some time, I settled upon one, the same, or nearly so, as is used by engineers to set their transit upon. It is composed of two joints, a ball, and socket; the ball-joint allows the camera to be levelled in whatever position the tripod may stand; the socket-joint (the top part of which is secured to the camera), permits the camera to be turned in any direction, and fastened by a catch and set screw, also giving the means of readily taking the camera from the stand for transportation. The only objection I have, is the

weight, which, when climbing mountains, I find to be considerable before reaching the top. Still, I think it no heavier than the one described in your journal, but be that as it may, when taking views in such places, photographers know we have always more or less wind to contend with, and generally of sufficient force to render a tripod of ordinary strength too feeble to prevent vibration.

I find the legs of mine not any too stiff, although they are $1\frac{3}{4}$ inches in diameter in the largest place, tapering both ways, and made of cherry, with metallic points. The more the legs are spread, the lower the camera, and the firmer it stands.

Perhaps some one may have a better style than either of these, if so, I would be glad to hear of it through your journal.

There is a screw cup which tightens the ball-joint. B, a spring plug which slides in a groove, and prevents the camera from falling off whether secured by set screw or not. C is a set screw to prevent the camera turning after being placed in the proper position. D, the top of the tripod. E, a section of both joints with the groove that the end of the catch B plays in. The metal parts are brass, except the bottom part of the points, which are iron.

 THE "TONICA" SECRET.

IN our January issue we published the circular of a man named Syphers, emanating from Tonica, Ill., in which he promised much to all who would purchase his secret. One of our patrons has been victimized and sends us a "Tonica" picture and Syphers's letter of instructions how to make them, which the aforesaid victim gives to the fraternity, hoping they will not allow themselves to be so foolish as he was, even after being cautioned by the *Philadelphia Photographer*. The process is as follows;

Make a solution of bichloride of mercury in pure water in a collodion vial; now make an ambrotype on a clean glass, and wash well; now pour on as much of the bichloride solution as will lay on the plate, and hold it over the flame of an alcohol lamp, moving it meanwhile from side to side. In a moment or so the picture will

be white. The plate should not be allowed to get dry on the top while the bleaching process is going on. Finally wash the picture well, dry, tint the cheeks, back it with an iron ferrotype plate and case with mat and preserve, and you have *the* picture. No varnish is used, and in tinting care should be taken not to scratch the picture with the brush. An oval form may be given to the picture by fastening a piece of thin back-board in the camera-box just before the ground-glass; in the centre of the board cut a hole and fasten an oval ferrotype mat over it, and thus a clear outline is obtained. Mr. Syphers states to our informant that the "country operators bite" at his process "like hungry sharks." This is the whole thing. He charges from \$4 to \$25, "according to the man," he says.

UNDER THE SKYLIGHT.

BY ROLAND VANWEIKE.

WELL, Focus, I suppose it is understood that I am to explain matters to you as we go along to-day with a view to giving you some instruction. The morning is fine, and we have the promise that "Sol" will favor us with his most cheerful rays. The first thing to be considered in working under the skylight is, what kind of a light have we? There is a variety of forms and styles, and it is difficult, perhaps, to prescribe any particular style as best. A large light can be worked more successfully than a small one, for all kinds of work; it is of great advantage in dull weather, and can be arranged with curtains to close as much as you wish at any time. A side and top light combined is the most popular light, and is *the* style for general portrait photography. I believe Focus in using *curtains* on a skylight; so arranged that you can drive the light wherever you want it. Curtains of white or blue may be used of different texture, to soften or exclude the light as the case may require. Every photographer is supposed to possess sufficient ingenuity or constructive ability, to arrange those things so as to get his light where he wants it, and to be able to regulate it according to changes that may occur during the day. If he has

not he had better get somebody that can do it for him, or else get out of the business. Many good lights are spoiled by bad management. I don't believe in these clap-trap blinds that many use, arranged like the sides of a down east fisherman's smoke-house, to open and shut. They always obstruct more or less light, become elegant receptacles of dust, and require a good deal of tackle and machinery to operate them. Give me curtains that you can roll up at night and keep clean, or in dull weather when you want all the light you can get. But here comes a sitter, Focus, and we will try the practical application of what we have been talking about. Card vignette; that's a style of picture I like to make. The face and head are what we want—they are really the person—the rest is merely accessory, and it is gratifying that a somewhat cultivated taste has relieved us, in some measure, from the disagreeable duty of arranging in presentable shape, awkward, uncouth limbs and big boots. Take a seat here. This is about the position, Focus, for most sittings of this style, just under, or a very little back of the edge of the skylight, *i. e.*, the edge or side farthest from the camera. This admits the light well around the sitter and gives roundness and relief to the figure. If you place your subject too far back, the result is a flat picture with the light all in front. Now this lady has a fine head and regular features, about a three-quarter view will be most favorable. As her shoulders slope well, we will have a front view of the body and turn the head; that's it. As the light is not very strong yet, we only need to draw that curtain on the shadow side sufficiently to give roundness to the face, and bring the curtains up part way on the side-light; now bring the background up pretty close, so that the shadow cheek will be cut out sharp against it. That looks very well. You want to learn to *see* the light and shade on the face, and when you have done that, Focus, you will be capable of seeing just how your subject will look in the picture. The untutored eye does not see lights and shades on a face any more than on that screen, hence there are many that go it blind, sitting their subjects in a certain place, getting a focus and making pic-

tures. As a clock that does not go is *right* twice in twenty-four hours, so there will be certain conditions of the light during the day that may make good work; it will be right sometimes. But, Focus, the light is our servant, and will serve us well if we study it closely and learn to make it do our bidding. Now have the lady keep her head quite firmly against the rest; direct the eyes here, letting them wink naturally, and think of anything else than the matter in hand, forgetting, if possible, that she is before the camera. Now, about thirty seconds will be sufficient, . . . that will do.

All this must be done quietly. If your sitter is communicative it is well enough to converse and keep her attention as much as possible away from what you are doing; but do not annoy her, or make yourself appear impertinent. Work coolly without any bustle or appearance of nervousness; have no loud calling to "Joe" in the dark-room, "Kate" in the waiting-room, or "Bill" in the printing-room; nothing that will tend to excite the most delicate lady, or make her feel otherwise than perfectly at home, and that you understand your business, and are master of the situation.

Our experience with this subject will serve us for all like sittings during the day, with variations according to circumstances. But all sitters are not like this one, and we need a versatility of resources to deal with all successfully. This man now with thin features, we will give a three-quarter view of the body, and turn his face well to the front; or when the profile is good, with a well-formed head, that view is perhaps desirable. This thin face will not bear quite so much shadow. Give a little more light on the shadow side, and draw that thin curtain directly above the sitter, so as not to have so strong a top-light, and let the curtains well down on the side-light. These directions will also answer for this next subject, who has heavy projecting brows. Get your direct light from as low an angle as possible, use a good deal of diffused light, and give a good full exposure. For gray, or very light hair, we will carry the background farther back, so as to make it darker. Almost any desired shade of background can be had by the distance you place it from

the sitter. This man with a bald head requires quite a dark ground. I like bald heads; they are generally good subjects, with brains enough to keep them steady.

(To be continued.)

THE ALKALINE BATH.

I HAVE nothing new to offer, but desire to strongly recommend some old processes that have not been mentioned since their publication, and some that were never practical with the old acid solutions.

I will commence with the silver bath for negatives, as that was the subject lately discussed at the Boston Photographic Association. The committee appointed to report at the next meeting of the Association reported a very good bath, and I can heartily indorse its value.

But I must speedily come to the conclusion that they never worked an alkaline bath—the same one that you published in the summer. I claim that it works quicker, *i. e.* it shortens the exposure of the negative—gives clearer shadows and a quicker printing negative than can be made with an acid bath.

I made one solution on reading the formula in the number of the journal that it was published in, and in two weeks commenced to work it. In two weeks more it became disordered and nothing would restore it to working order, although it worked splendid for the first ten days. The next one I made the same as the first, and let it stand in the sun two months. I then worked it some four weeks, until it became charged with alcohol, and then boiled it down to drive the alcohol out, filled it up to make it forty grains to the ounce; added one drachm of a saturated solution of permanganate of potash to make it alkaline, and sunned it a week. It now works as well as a new bath, and I have never seen any signs of fog.

Mr. G. Wharton Simpson gives us a long article in the November *Photographer*, and a very interesting one on the use of a developer without acid.

Now, Mr. Simpson, I can insure you to make clean negatives without acid, and

without your substitute of glue or glycerine to keep it from fogging.

I proceed as follows :

BATH FOR NEGATIVES.

Nitrate of Silver, . . . 4 ounces.

Pure Water, . . . 2 ounces,

and dissolve. If the silver does not all dissolve, add a little more water. After it is all dissolved add of a saturated solution of bicarbonate of soda 20 drops ; shake well and set in the sun two months in a clear glass bottle. After sunning two months add 48 ounces of water, and sun two or three days longer ; then filter, and it is ready to produce clean negatives that will not require mountains of bichloride of mercury to build them up. If they *are not* as strong as you like, a few drops of silver and iron are all that is necessary to make a first-rate negative without any acid in the developer. I use for developer the double salts of iron and ammonia and *no acid*. The above bath also makes a very fine clean positive or ferrotype, but not quite as good as an acid bath with nitrate of lead in the developer.

To keep this bath in working order add of a 60-grain solution to keep up the strength made the same as the bath. Add none that has not been purified. One ounce of a solution of common silver will spoil a 40-ounce solution, and set it to fogging. No iodide of any kind.

When it becomes charged with alcohol boil it down to evaporate it, then add water to make it 40 grains strong to the ounce, and add two drachms of a saturated solution of permanganate of potash to make it alkaline again, and set in the sun for a week ; try and keep it alkaline by using a neutral collodion and well-washed glass, if you clean the glass with chromic acid ; I use none but albumenized glass well washed.

P. HAWK.

HAMILTON, O.

Method of Copying Statuary in Varied Positions on One Plate.

BY GEORGE WILLIAM WHITE.

I CAN best explain my method by giving my first experience. I had occasion to make some card copies of a small marble statue of the Greek Slave, and thinking it

would make a much more attractive picture if it could be copied in a variety of positions on one card, that I would attempt it. I took for the background a strip of dark brown cotton-velvet, arranging it so that the lower portion covered the top and hung a few inches over the edge of a small stand. Placing the image on the centre of the stand. I got the proper size and focus with the ordinary camera, and made a faint mark around the base on the velvet, then moved the image to the right and left of the first position, being careful that one position should not interfere with the other, and marking around the base each time, that I might know just where to place it in the subsequent operations. I then prepared and exposed my plate, covered the camera, moved the image to the next position, and exposed, and again as before. On developing my plate, I found I had a remarkably fine negative of one object in three positions. Almost any number of positions may be obtained in this way, but the time of exposure must be lessened as the number of positions increase, and each position should receive an equal exposure. Whether the idea is new to every one I cannot say, but that it may be a useful one to many is evident. To such I give it. Those who photograph statuary for the stereoscope, would do well to try it.

CHILLICOTHE, O.

PHOTOGRAPHIC SOCIETY OF PHILADELPHIA.

THE regular monthly meeting was held on Monday evening, February 2d, 1870, the President, Mr. Graff, in the chair.

The minutes of last meeting were read and approved.

The committee appointed to procure a certificate for the prize awarded for the best specimen of photography for the year 1869, reported, and presented a very handsome certificate, engrossed by Mr. Soulé, which, after the signatures of the officers were appended, was presented to the recipient, Mr. John Moran.

Mr. Tilghman, Chairman, then reported the proceedings of the committee appointed to consider the propriety of a junction of

the Philadelphia Photographic Society with the Franklin Institute, and to become a section thereof. The report was able and exhaustive.

The Secretary then read a minority report upon the same subject.

After much discussion, on motion of Mr. Sergeant, it was resolved that the junction was inexpedient, and that the whole matter be indefinitely postponed.

The committee on "The Lantern," then reported, and produced a Marcy lantern, for which Mr. Tilghman had kindly presented the Society with an objective.

A vote of thanks was then offered to Mr. Tilghman for his very acceptable donation.

Mr. Davids offered the following resolution which was carried, *nem. con.* "It is understood that honorary and corresponding members of the Society are privileged to compete for any prizes which the Society may offer for the best specimens of photography."

Mr. E. L. Wilson then introduced to the Society Dr. Edward Curtis, of the Army Medical Museum, who exhibited and explained some very interesting and instructive photographs of the recent eclipse of the sun (being the same which accompanied his official report to the government), and, also, some illustrations of the phenomenon known as "diffraction." Dr. Curtis then explained a very simple and ingenious method of ascertaining by the means of photography, whether diffraction actually occurs in photographing the sun.

Mr. E. L. Wilson exhibited two prints on glass, made by Mr. Carbutt, of Chicago, by the new Woodbury process. The negatives and gelatine reliefs were made in England, but the prints were by Mr. Carbutt, the first made in this country. They were very beautiful and elicited much praise.

A few pictures were shown by the Marcy lantern; it worked admirably, covering a disc of four feet diameter, to the satisfaction of the members.

The Secretary laid before the Society a roll of prints received from the St. Louis Photographic Society, and a letter, couched in the kindest terms, offering to exchange photographs and essays connected with our art.

On motion, Mr. Wallace, Corresponding Secretary, was empowered to receive from members, prints, etc., to be sent in return to the St. Louis Association, with our kind greetings.

On motion, adjourned.

ELLERSLIE WALLACE, JR.,
Corresponding Sec'y and Secretary pro tem.

FERROTYPERS' ASSOCIATION OF PHILADELPHIA.

THE regular monthly meeting of the Association was held at Mr. C. L. Lovejoy's gallery, Tuesday evening, February 1st, 1870.

The President, Mr. A. K. P. Trask, in the chair.

After roll call the minutes of last meeting were read and adopted.

Messrs. J. C. Harmon and G. D. Wise were elected members of the Association.

A letter written to the President by Mr. J. W. F. Wild, of Demopolis, Alabama, was read to the meeting. He wished to know if he could become a member of our Association; and requested that formulas for making ferrotypes be sent to him, etc.

It was resolved that the President should answer his letter and give the desired information.

The members now handed in their specimen work, in compliance with a resolution passed at the last meeting. The President arranged all the pictures on a table, and each member present examined them; there were exhibited about twenty-five very fine album-sized ferrotypes, mostly large heads. The two ferrotypes selected as the best, were made by Mr. D. Lothrop. The subjects were a little girl and a young lady, taken large and made on the black glossy plates.

Mr. Lothrop acknowledged the compliment paid to his work, and gave to the meeting his formulæ, which are as follows:

COLLODION.

Ether and Alcohol	.	equal quantities.
Iodide of Ammonium	.	5 grains.
Iodide of Cadmium	.	1½ "
Bromide of Cadmium	.	1½ "
Anthony's negative gun cotton,		
to the ounce,	.	4½ grains.

NITRATE OF SILVER BATH.

Strength, 40 grains.

DEVELOPER.

Water, 120 ounces.
 Protosulphate of Iron, . . . 8 "
 Acetic Acid, 8 "
 Alcohol, 6 "
 Nitre, 100 grains.

VARNISH.

Bleached Shellac, 11 ounces.
 Alcohol, 70 "
 Liq. Ammonia, 35 drops.
 Oil of Lavender, 2½ drachms.

Adjourned, to meet again Tuesday evening, March 1st, 1870, at Mr. C. M. Gilbert's gallery, No. 202 South Second Street.

D. LOTHROP,
 Secretary.

 FILTERING COLLODION.

BY M. CAREY LEA.

THE clearing of collodion by filtration is a matter that does not always work very smoothly. Filtering through sponge, it is true, answers tolerably well. But in the apparatus made and sold for this purpose, if the sponge be not very tightly rammed round the tube, the collodion finds some channel for penetrating without filtering. And, if the ramming is thoroughly done, the filtering is very slow. But the worst is, that if the apparatus is put away for some time (unless a quantity of collodion be expressly left in the lower part), the sponge becomes a hard lump by the drying up of the collodion with which it is saturated, and this contracts it extremely. This contractile power of collodion is something very curious: we see its effects when a negative splits in drying, and I am informed that this means is now employed in medicine where it is desired to apply a contractile force to the skin, as, for example, in some forms of erysipelas, the skin is painted over with plain collodion, and the effect produced is simply mechanical. This contractile acting upon the sponge is very apt to spoil the filter, so that if the operator, unaware of the effect that has been produced, proceeds to filter his collodion

through the contracted sponge, he finds his plates spoiled by motes.

Some have advocated filtering through paper, and I believe that there does exist paper through which collodion may be filtered; it is, however, not at all easy to get, and I judge that, at best, the operation must be exceedingly tedious.

It recently occurred to me to try filtering through strong but fine and close-woven cotton stuff, such as that which is made for the best quality of cotton shirting. I find it answers so excellently that I now use it habitually. The proceeding is as follows: select a piece of cotton stuff that is very close-woven, smooth, and perfectly free from fuzziness of surface. It is only the very best sorts that possess the desirable qualities. Throw it into boiling water and let it lie for some hours to detach the starch and dressing; rinse it well out in cold water, wring, and dry it. A small circular piece about four inches in diameter will make a good filter; as the collodion runs through pretty rapidly, it is useless to employ a larger filter.

A still better filtration is got by combining this with a sponge. A small piece of very clean sponge is pushed into the neck of the funnel. The effect is quite different from where the sponge is used alone. The muslin stops nearly all the fibres and insoluble material which would rapidly clog up the sponge, so that the latter remains much freer. And thus the filtration through the sponge and muslin goes on more rapidly than it would through the sponge alone.

I now employ this mode of filtration exclusively, rejecting the regular collodion filter which I formerly used. Although the surface is exposed, the evaporation amounts to very little, and may be furthermore checked by laying a piece of glass or of card on top of the funnel to stop the circulation of air. It is best to use a funnel a little larger than the muslin, so that the card may rest upon the sides of the funnel and not touch the filter.

I find this mode of operating especially convenient for the collodio-bromide and chloro-bromide processes. It is rapid and efficient. When the sponge becomes choked

it is easy to replace it. I generally use a fresh sponge with each collodio-bromide filtration; this is not at all necessary when filtering ordinary collodion. The quantity of insoluble matter in the collodio-bromide mixture tends to clog up the sponge sooner.

The sponge sold as surgeons' sponge is very suitable. Common Bahama sponge (carriage sponge), is even better if it be soaked for two or three days in a good quantity of dilute hydrochloric acid, and then be *thoroughly* well washed out.

SARONY'S PHOTOGRAPHIC CRAYONS.

ON pages 100, 165, and 243, of our last volume, our esteemed friend Mr. G. Wharton Simpson described to us a novel and beautiful new style of portraiture which had been introduced in England by Mr. Oliver Sarony, of Scarborough. Soon after, the process was offered for sale in our advertising columns, but not being pushed much, we suppose our readers lost faith in the matter, and like ourselves, forgot all about it. Now, however, as Mr. Sarony has sent his nephews and pupils, Messrs. T. H. N. and N. A. P. Lambert, to this country, to personally introduce the new picture and teach the method of their production, it is, therefore, proper that we should inform our readers more fully on the subject.

The pictures may be produced of any size, from a large or small negative; with only the appurtenances of the smallest establishment; in all kinds of weather; in a very few minutes; very easily and at very little cost. Shadows may be reduced or strengthened with the greatest ease.

The effect is that of a finely worked crayon photograph on tinted paper with the most artistic hatching around, while in reality there is not a single touch of a pencil on the whole picture. They are, when skilfully printed (and practice soon attains that), from good negatives, perfectly lovely. The Messrs. Lambert have produced them in our presence, and the ease and quickness with which they are made, makes their production merely pleasurable pastime. Each new print increased our admiration for

them, because we were disappointed when we first saw them. We shall soon make them with our own hands, and then be able to give more information practically.

They are made in this wise: A collodion print is made upon glass according to instructions given by the Messrs. Lambert, vignettied while printing, developed, fixed without washing, dried, and then backed up with a piece of white or tinted drawing paper, peculiarly roughened, on which, in bold hatching is the graduated vignetting which breaks up the outline, and causes the picture to merge into the background apparently. In the centre of the crayoned vignetting is a space for the head or figure. Place the glass print on one of these sheets, and a perfect metamorphosis is the result. At once the impression of a costly worked-up picture is given, an impression very hard to overcome. The roughness of the drawing-paper imparts elegant softness to the picture, and, as some one has said, very happily, "permitting the image to be superposed on its own shadow, increasing depth and softening asperities."

While we write, one of these charming pictures is before us. It was produced from a rather under-exposed carte negative of a two-year old child. The head is fully four inches, and could as easily have been six. It was produced while the rain was falling in torrents, in less time than we have taken to write these words. It is backed by a warm-tinted crayon sheet, and we believe we could induce nine out of every ten photographic experts to believe that it is a finely worked-up crayon head.

Now the advantage of this style of picture is, that old negatives may be utilized and made to produce revenue. Mr. Sarony's plan is to print from some of his best negatives at his own risk, and, in most cases, the parties cannot resist buying them. Another advantage is, *good prices* may be readily got for them, and the cost of their production is but trifling.

The Messrs. Lambert, with their agent, Mr. A. E. Alden (see advertisement), propose to visit our principal cities and towns in person for the sale of these sheets, and to all who buy a certain quantity they teach Mr. Sarony's method of making the prints.

Moreover they will not sell the sheets to any but those who are taught by them, thus giving protection to all their patrons. And permit us to suggest that, as here is probably a chance for a lucrative business, let the prices be well kept up, and *make pictures good*.

They are very beautiful when well made, and to attract the public they *must* be well made.

BOSTON PHOTOGRAPHIC SOCIETY.

THE minutes of the January meeting of the Boston Photographic Society did not reach us last month, but come now with those of the February meeting. The subject for discussion was, *Retouching the Negative*.

Mr. E. L. Allen read a paper thereon, quoting from instructions that had been published. He also exhibited a number of his own retouched negatives, which were very fine.

Mr. Allen stated that he found it difficult to obtain in Boston, what he called good nitrate of silver. He now used Magee's Philadelphia silver, which he found much better. He then gave his formula for making collodion, viz.:

FORMULA FOR COLLODION.

No. 1.

Dissolve 400 grains of Nitrate of Silver in 16 ounces of Water in a quart-bottle. In another bottle dissolve 320 grains of Iodide of Ammonium in 1 pint of Water, and add to the silver solution. Wash the precipitate two or three times with Water, after in 95 per cent. Alcohol. Shake well, settle, and pour off.

No. 2.

Dissolve 320 grains of Bromide of Ammonium in 16 ounces of 95 per cent. Alcohol. Dissolve and add to bottle No. 1. Shake for half an hour. This is a saturated solution of Bromo-iodide of Silver and Ammonium. To excite, add 1 ounce of Bromo-iodide of Silver and Ammonium to 8 ounces of plain Collodion, and it is ready for use.

The discussion was then continued, and Mr. Stevens said that he found rubbing a little Indian red on the negative varnish

would give a good surface to take the pencil in retouching.

It was resolved that the competition at the next meeting be for plain cards, the person making the best to have all competing prints, to be decided by the vote of the Association.

A discussion ensued on the subject of nitrate of silver, it being intimated that some samples were adulterated. Messrs. Low, Tupper, and Marshall were appointed a committee to analyze different samples, and to report the result.

Beautiful specimens from retouched negatives by Mr. J. F. Ryder, Cleveland, Ohio, were exhibited, and also enamelled cards from Mr. M. G. Trask, Bangor, Maine; cartes from Prescott & White, Hartford, and photographs of animals from Schreiber & Son, Philadelphia.

The subject chosen for discussion at the next meeting was, *On Printing Photographic Pictures*, and, on motion, adjourned.

FEBRUARY MEETING.

Vice-President Burnham in the chair.

Minutes of last meeting were approved.

The annual fee of members was fixed at \$2.

The Committee on Nitrate of Silver asked for further time.

The subject of discussion for the evening was then taken up.

Mr. Southworth stated that in 1854 he printed photographs with thin substances, as mica, thin plate-glass, etc., between the negative and the paper, for the purpose of getting soft prints. In 1855 Mr. Hawes and himself exhibited such pictures at the Exhibition of the Massachusetts Charitable Mechanic Association, and a description of this process of printing was given to the committee of that Association at that time.

Mr. Southworth's remarks were quite extended and very instructive and interesting. He favors soft pictures, without, as he calls it, an excess of sharpness.

He was followed by Mr. Burnham, who favored sharp but soft pictures.

Mr. Allen prints altogether under ground-glass. He finds it harder work to get the prints as they ought to be, than to make the negatives.

Communications were received from Messrs. Loomis, Meinert, and Lovell.

Mr. Black asked for the best manner of making good transparencies. A discussion ensued, in which Messrs. Black, Allen, and Tupper took part. Mr. Black said Mr. Tupper made the best transparencies he had seen. Mr. Tupper said his method did not differ from others. He used a little thinner collodion than for negatives, and took much care as to the time of exposure of the plate.

A recess was had to examine the pictures brought in for competition, which was for the best plain card photograph without retouching on the negative. The contributors were Messrs. George K. Warren, Cambridgeport; C. F. Richardson, Wakefield; E. L. Allen, T. R. Burnham, E. J. Foss, E. F. Smith, Boston; W. R. Hawkes, East Boston; and J. L. Lovell, Amherst, Mass.

After the meeting was again called to order, Mr. A. Marshall was appointed a committee to ascertain who should have all the specimens presented (that being the prize), none voting but the contributors, and each one to vote for some one other than himself.

After a few minutes, Mr. Marshall reported that Mr. E. L. Allen had the largest number of votes, and was entitled to the pictures.

Mr. Black appealed to the members in behalf of a destitute photographer, who, although not a member of our Society, yet needed and should have our assistance.

On motion, voted that a committee of one be appointed to take up a collection in behalf of this destitute photographer.

The Vice-President appointed Mr. J. W. Black that committee, who attended to the duty assigned him, and soon reported a contribution of \$14.42.

Voted, that Mr. Black be a committee to forward the contribution to our distressed brother.

On motion of Mr. Marshall, it was voted that we have another competition for best card-photographs from retouched negatives at our next meeting.

The following were elected as members of this Association: Messrs. R. B. Wilson, A. F. Buzzell, and J. C. Richardson, of

Boston; Mr. C. F. Richardson, of Wakefield, Mass., and Mr. Benjamin Jones, of Salem, Mass.

Voted to adjourn.

FRED. C. LOW,
Secretary.

NEW YORK CORRESPONDENCE.

THE photographic section of the American Institute met Feb. 1st, V. P. Bogardus in the chair.

A large presentation of prints was made by Messrs. Kurtz, Mason, Captain Russell, photographer of the U. P. R.R., Bierstadt, and Bogardus.

Captain Russell, at the request of the gentlemen present, "gave his experience." It might well be called photographing under difficulties.

Owing to the generally alkaline nature of the water in large sections of our "big great West," he had been forced to carry good water a distance of seventy miles; he had often travelled fifty miles upon foot for certain views; was often absent four and five weeks, and forced to subsist upon game. Many of his situations and of his companions as well, were unpleasant and not uncommonly ludicrous. Upon one occasion in descending a mountain almost as steep as the side of a house, the horse of one of the party, either from uncontrollable gravitation or a desire to go faster, started, the result being that he left his rider, but no longer master, pendant in a tree, an astonished and dissatisfied mass of helpless humanity. Upon another occasion the Captain was astride his mule descending some upright mass or another of nature, when he found himself moving faster than his faithful servant; they both moved downwards together, but the Captain beat the mule, and declares that had it not been for the ears of said mule he would have gone overboard; they proved his salvation and kept him aboard. The Captain is not responsible for my words; I only report facts, not exact language.

This reminds me of the mule Josh Billings tells about: how he spells it is more than I know, but he says: "The mule is a bird of larger growth than the turkey, he

has two legs to walk with and two to kick with, and he wears his wings on the side of his head." This, I judge, to be the kind of a mule Russell had.

The Captain exhibited his camera-box; it was of novel and ingenious construction, but without drawings, I cannot explain it. Mr. H. T. Anthony volunteered to have a drawing made of it, so that by your next I trust it will be in shape to publish.

The prints presented by Mr. Edward Bierstadt were made by Dewey, of Paris. The film of the positive was removed from the plate and laid upon paper of some tint best suited to the subject. If of coins, upon a gold, silver, or copper paper; if of bronzes, upon a bronze paper; if of a sunset, upon a paper which will give the glow and warm coloring desired. The effect was very fine in some.

Yours, &c., C. W. H.

GERMAN CORRESPONDENCE.

Keeping Negatives—Retouching Negatives, and the Berlin Process—Large Heads Card-size—Action of Lighting and Contrast—Keeping Silvered Albumen Paper.

A LIVELY discussion on the best mode of keeping the negative film from splitting, took place at the last meeting of our Society.

Much has been said as to the cause of this annoyance, but it certainly is not exactly understood yet. The thoroughness of the washing, and the quality of the water, exercise, undoubtedly, a great influence.

The question, however, is, how can this evil be prevented, and many parties have proposed to cover the negative with an amber solution and to varnish afterwards. This would have another advantage, it would protect the collodion films against the action of the varnish. The amber furnishes an excellent surface for retouching, and the retouch would itself be protected by the last varnishing. Until, however, the amber varnish has stood the test of time, its claims to freedom from cracking must remain conjecture.

Another proposition, *i. e.* to remove a quarter of an inch of the collodion film all around

the plate and to varnish afterwards, seems to offer advantage. It would certainly give greater protection, and prevent moisture from insinuating itself at the edges between the film and the glass. Time alone can settle these points definitely.

I made lately a curious discovery in regard to this very subject. One of my Aden negatives commenced to show signs of cracking all over the surface, so fine, however, that they did not interfere much. I tried to get rid of them by exposing the plate to vapors of alcohol, but they remained as before. Finally, I retouched the sky on the varnished side with India-ink containing gum-arabic, and put the negative away. This was some months ago; I looked at it again a few days ago, and found the plate covered with cracks, except the places where it had been retouched. This seems to prove to me that a covering over the varnish will prevent the splitting of the film. The best expedient to get tolerably good prints from cracked negatives, is rubbing the plates with lampblack. It fills up all the fissures, and makes them for the time being disappear.

Next to the question of the preservation of the negative, the manipulations of the retouching process always claim our attention. This branch of the business becomes from day to day more important, in the same proportion as the passion for large heads in card-size spreads amongst the general public. It is indeed a mania that gives a great deal of trouble to the photographer. There are heads with all the modern accessories, as chignons, curls, flowers, laces, and all the other fixings; they make beautiful pictures, particularly when one knows how to sit, and is accustomed to being photographed. Actresses make splendid models; you can always make something out of them; their toilet is generally excellent, and their skin has undergone such a thorough "positive retouch," that the artist has very little trouble. The case with ladies from private life is quite different. They are often awkward in their movements or even resist the arrangements of the artist, they object to being handled, and show a skin, which, in spite of all the artifices of illumination, looks, in the negative, like a

freshly ploughed field. Negative retouching has to come here to the rescue, and this becomes more difficult as the size of the head increases.

Formerly photographers were generally through their day's work with the setting of the sun; now you find them late at night at the retouching desk, to retouch the negatives that have been taken during the day. In large establishments, when four images are made on one plate, only one of the four is retouched for want of time.

Last fall I reported to you the plan of Grasshoff, to rub the negative with cuttlefish, and produce a surface that will take lead-pencil marks. The process has proved perfectly successful. On the ground surface, the lead-pencil marks are placed with the same care as on paper. All the negatives taken by Loesch & Petsch are treated in this manner, that is, not the whole negative but the face only, which is the only part that is subjected to retouching. Some varnish, however, when rubbed with cuttlefish, will become smooth instead of dull. In such cases I take finely-powdered pumice-stone. That gives the best surface, and a hard pencil answers very well. Grasshoff uses the so-called silver pencils (metallic lead mounted in wood), on account of their cheapness and the points do not break.

I give this lengthy description that your readers may know the nature of the real "Berlin process." A piece of ground-glass will not do. It is the careful selection and treatment of the originally artistic illumination and careful retouching of the negative. To learn the latter requires much patience, and can only be acquired by long practice.

In my last letter I called your attention to the optical difficulties in taking such pictures, and showed what care is necessary in the selection of the apparatus and how the proper distance has to be studied in order that a head does not appear too thin or too broad. Similar mistakes can be produced by improper illumination. A strong front-light makes a head appear much broader than a side illumination. It is also a fact that the exaggerated large hands, of which formerly so many complaints were heard, are now, where the hands are made dark instead of white, not so much noticed. Here it is the

contrast which can improve or deteriorate a picture.

A white surface will look much whiter when placed alongside of a dark one. Mr. Kurtz has given some excellent hints on this subject in the *Mosaics*. Allow me to call your attention to another effect of contrast.

A very diminutive lady called on Mr. Prüm here. She complained that on all the photographs which had been taken of her she looked so very small, and that photographers were very unskilful people. Mr. Prüm placed the little woman alongside a toy table, threw the drapery over it, took a plain background and made the picture, a three-quarter length, from the knees up. The effect was remarkable. Alongside the small table the lady looked quite large. She was delighted with her likeness, and declared that Mr. Prüm was the first photographer in the world.

Another artist was called upon by a couple, the husband small, the wife very large. The husband insisted on looking as large as his wife. What was to be done? The operator placed the husband on a footstool, took a three-quarter length picture, and the little man was satisfied. Of course all the objects which can act as a guide to comparison must be left out of these pictures, such as chairs, pillars, architectural backgrounds, etc., etc.

In conclusion a few remarks on the permanent silvered paper that of late has been so much talked about. It consists simply of ordinary silvered albumen paper from which the free nitrate of silver has been removed by washing; this paper will keep for weeks, while otherwise it will turn yellow in three or four days.

In our last meeting Grasshoff demonstrated the effect of the pressure pad on the turning of the paper. A print which had been backed by a pad made of newspaper turned yellow in two days, but the places which had rested on the black letters remained perfectly white, and the letters were reproduced white or yellow on the albumen print.

Now Grasshoff places a piece of oilcloth on the paper and the pad on top of this. Beneath the oilcloth the paper remained

white for four days. Waxed paper does not answer as well; it frequently contains small holes which will cause yellow spots on the paper.

Yours, very truly,
DR. H. VOGEL.

NOTES IN AND OUT OF THE STUDIO.

BY G. WHARTON SIMPSON, M.A., F.S.A.

Nationality of Photographic Discovery — Boiling the Printing Bath—Combination Negatives—Protecting Films from the solvent action of Varnish—Side-light v. Front-light—Which is best.

A SOMEWHAT amusing challenge is made by "An Old Photographer" in the *Photographic News* to American photographers, or rather, to a certain section of American photographers. It arises out of a circumstance reported as occurring at a recent meeting of the Photographic Section of the American Institute in New York. Mr. Chapman is there reported as complaining that Mr. William England had been accredited with the idea of boiling the printing bath, as a means of purifying it, whilst, in truth, he stated he had himself introduced that method of clearing the bath in 1865; whereupon, the report in your contemporary states, Mr. Hull remarked that the "old world usually claimed, as their own, whatever happened to be first produced in the new." This remark has aroused the ire of my correspondent, the "Old Photographer." Before referring to his challenge, allow me one word in relation to the method of rectifying the bath in question. I can assure Mr. Chapman that it is very much older than 1865. It is mentioned in the *Photographic News* as a known method eleven years ago, and, unless my memory misleads me, it has been familiar to me a still longer time. It is, in fact, one of the most obvious methods of purifying a bath which has become contaminated by contact with albumenized paper, inasmuch as not only is heat well-known as efficient in reducing organic salts of silver, but boiling is the recognized

method of precipitating albumen in solution. Nevertheless, both Mr. Chapman and Mr. England did good service in restating the fact, because, by doing so they may have reminded some who had forgotten the remedy, and informed others to whom it may never have occurred; but they give to it the weight which always attaches to the indorsement of good practical men. I should like to impress this fact on all photographers, that they may often do good service by restating, with the comment suggested by their own experience, old processes or well-known methods, and such restatements may often have all the interest, and more than the value of novelties. To return, however, to the "Old Photographer," I can scarcely help thinking that Mr. Hull, who is, if I mistake not, your esteemed New York correspondent, must have been misunderstood by the reporter referred to, as his remarks seem certainly somewhat unfair. With a full appreciation of the excellence of national spirit in citizens, and admitting that it is natural and not ungraceful to maintain the claims of fatherland, I think science should be essentially cosmopolitan. It belongs to the world, and, although it is possible to assign great discoveries to the countries in which they originated, it is difficult to indicate all the minor contributions from whence it may be each great discovery took its rise. Our "Old Photographer," referring to Mr. Hull's remark, says:

"If Mr. Hull be correctly reported, he is surely, as a photographer, a little oblivious or ungrateful. America has contributed a respectable quota to the progress of the photographic art, but I have yet to learn that the old world has laid profane hands on any of the laurels of the new in this art. Was photography on silver-plate, glass, or paper discovered in the new world? Was the collodion process discovered there? Was the carbon process discovered there? Was the Woodbury process discovered there? Was the Albertype process discovered there? In short, to be an inventive and ingenious nation, does it not seem a fact, that whatever of executive skill and enterprise they have shown, they have not contributed their fair quota to the discov-

eries of the photographic art? Nor have they introduced novelties or improvements which have taken their place in the universal practice of the art. With all friendly feeling, and without a desire to introduce any bitterness into the matter, I should like to ask those American photographers who charge the Old World with a "habit of appropriation" in regard to American photographic ideas, to point out one important photographic discovery, which has come into practice, which does not belong to the Old World, and also to point to one important American modification or improvement, the origin of which has not been duly acknowledged."

Possibly, it may be an interesting undertaking for some of your veterans to give a brief history of American photographic discovery, and meeting the challenge in the spirit of cordiality and good humor, in which I am sure it is made.

Combination Negatives.—By combination negatives I mean several negatives combined so as to form one, and produce at one printing, a similar result to that usually obtained by combination printing. A discussion, evoked by the issue of Mr. Robinson's large instantaneous sea view, with a flock of sea gulls on the wing, has called forth many ingenious suggestions as to the mode of securing similar effects, where the multitude and minuteness of the objects, as in a flight of birds, would render double printing difficult or impossible. A paper was read at the last meeting of the Photographic Society by Mr. Dunmore, in which he described two methods by which he had been enabled to produce effects somewhat similar to those in Mr. Robinson's pictures, a flight of pigeons taking the place of a flock of gulls. In both his methods a transparent positive, obtained either from painted or real birds, is employed; the sensitive plate, which has been exposed to the landscape, is again exposed under the transparent positive of the birds, so as to receive a negative image, which is developed at the same time as the landscape. There is only one drawback to this ingenious plan, and that Mr. Dunmore indicates in his remark to the effect that the objects to be introduced must be of a lighter tint than the portion of the

landscape upon which they have to be superimposed. It is manifest, in fact, that they must be sufficiently light to obliterate the impression of the landscape upon which they have to be impressed. If they have any shadow or transparent part in the negative, the detail of the landscape negative would show through the shadow, and the birds would look like airy phantoms rather than solid bodies. This was, indeed, shown in one of Mr. Dunmore's examples, in which some trellis-work was seen distinctly through the body of a bird. To give value, then, to this process, two precautions would be necessary: the birds or other objects should be sufficiently light and opaque to obliterate all indication of objects underneath, and, if possible, the landscape should be so chosen as to present sufficient dark space without strongly marked detail, to permit other images to be impressed perfectly and solidly.

A more efficient method than that was recently suggested to me by a correspondent. It is briefly as follows: first, a negative of the birds, etc., is obtained, either from life or drawing, on a plate of size required, with a perfectly transparent instead of opaque background in the negative. In obtaining this negative, care is to be taken to make the background quite clear and transparent, and the figures quite opaque, by intensifying or afterwards painting on them. This plate is to be used as a mask. Then the sensitive plate, of precisely the same size, is exposed to the same figures with the same lens at the same distance, so as to get *fac simile* images on the plate. Now place the first obtained mask negative in front of the sensitive plate, and expose for the landscape. The opaque images in the mask negative will protect the sensitive plate in the portions which have already been exposed to the birds or other objects, and the whole being developed, a combined negative will be obtained without any phantom-like forms on the one, or any special arrangement of the subject to avoid such a result.

Other methods will occur to the ingenious photographer, and the following may be worth trying: let the photographer select from his stock of landscape negatives such as present dark spaces suitable for the in-

roduction of figures, either men, women, birds, dogs, or cattle. Produce a transparency, like that used by Mr. Dunmore, of the figure, photographed either from life or from a drawing, the former being infinitely preferable. Coat the landscape negative with dilute albumen, and, when dry, coat again with collodio-chloride of silver, and expose under the transparency so as to bring the figure or figures in the right spot. After exposure, fix and wash, and a combined negative, with the requisite additions, has been obtained, ready for printing.

Whether Mr. Robinson employed any of these methods or anything similar, he declines at present to state.

Protecting films from the solvent action of Varnishes.—Most photographers are familiar with the fact that the collodion film, either from the use of cotton soluble in alcohol, or from the collodion being very ripe, will dissolve under the action of a strong spirit varnish. As a remedy for this, Mr. England has recently suggested giving the film a preliminary coating of a very dilute amber varnish, in which the solvent being chloroform, no action on the film would take place. Upon this thin film of amber he then proceeds to apply the usual hard spirit varnish. A simpler remedy than this, however, will be found to answer perfectly: it has been employed for years by Mr. Blanchard, either when he had reason to fear that the film would dissolve under the action of the varnish, or that it would split in drying. He has, after fixing and washing the negative, just flooded the film with stale beer. The small amount of gluten contained in the beer permeates the film, prevents it from splitting in drying and effectually protects it from any solvent action of the varnish.

Side-Light v. Front-Light.—The experience of practical photographers is, as a rule, the best guide to an effective lighting of the sitter, and discussions on the subject, although always interesting, are rarely instructive, inasmuch as it is very difficult to deal with the question in the abstract. As a rule, a predominant side-light prevails in all the best studios, and even in those built

with a front-light it is customary to so arrange the blinds that the principal light reaching the sitter has really the character of a high side-light. In a paper recently read before one of our provincial societies, Mr. Ennel assumed the heterodox position of recommending a front-light as the principal or dominant light, and I note that your intelligent contributor Mr. D. Duncan calls attention to the form of studio described as well worthy of consideration. I cannot but think that he has done this, without fully realizing the mischievous effect of a prevalent front-light, and as I have known cases in which the inexperienced have been put to much useless trouble and expense, by following foolish advice, and building studios with front-light, I always feel concerned to correct this error when I find it repeated. I have recently heard of more than one studio which had to be pulled down and rebuilt, solely on account of the error.

In a certain sense, of course, all the light used in portraiture is front-light, inasmuch as it is in advance of the sitter; but the light which is at the side of the sitter, as well as in advance of him, is spoken of as side-light, because it derives its essential value from being at the side, crossing over the face instead of striking it full in front, lighting up the salient features, which acquire relief and vigor by being defined against those parts which, escaping the touch of the dominant light, are left more or less in shadow. The direct front-light, on the contrary, falls on every part of the face with equal force, and the only indication of form, gradation, and modelling, are obtained by the slight recession from the light of the retiring parts of the face, and the inevitable tendency is to flatness in the delineation. By throwing a flood of light on a globe directly in front, it may be made to look like a disc, and direct front-light has tendency to flatten into a disc-like effect many faces in portraiture. And, in proportion, as the front-light is the dominant light, the tendency will be in the direction of the flatness.

Certain it is, that the common experience of the best photographers, has determined that a high side-light, at a variable position in advance of the sitter, is the easiest to

manage, and gives the most satisfactory results. It may be of a little interest to some readers to know that excellent authorities, in relation to pictorial art, have determined that such a mode of lighting is most effective and pleasing, and have directed its use long before photography, as an art, was in existence. Frank Howard, son of an eminent Royal Academician, in his clever "Whole Art of Picture Making," says:

"The light should never be directly in front of the picture, or object chosen for the picture, that is to say, coming in over the head of the spectator from behind him. If the subject be a flat object, such as the side of a tower, it will present a mass of equal light, or a spot. If the object approach the circular form, or a round tower or tree, the light will graduate equally from the centre to the two equally dark sides. The outline of the two sides of the tower, and throughout of the tree, will be of uniform degrees of dark, and all pictorial effect in danger of being lost."

The same author, in a chapter on the treatment of heads, in another work on "Imitative Art, or the Means of Representing the Pictorial Appearances of Objects," says:

"If a head is to be represented, it should be treated in a similar manner to be a globe, and should receive the light on that side which will afford the greatest breadth.

"On what is technically termed a three-quarter view of the head, the brightest light will be upon the forehead, cheek-bone, and nose, from whence it should graduate to the retiring side and the chin. The brow will receive light in proportion to its prominence, and under it will be perceived a shadow strongest between the eye and the nose. The light will again glance upon the cheek-bone, graduating up to the hollow under the eye, and down to form the oval of the cheek. A light will run down the line of the nose, glance upon the point of the upper and the fulness of the under lip, and faintly touch the prominent part of the chin. . . .

"The retiring side of the head graduates into shadow, slightly relieved by half-lights upon the eye, the brightness of which will depend, as in the other, upon the prominence of the eye, or the heaviness of the lip,

but must not be equal to the light upon the nearest eye. . . .

"If a head be seen in front, the same assimilation to the effect of a globe should be preserved; the principal light being on one side of the forehead, cheek, and nose, and graduating from thence diagonally to the other cheek and chin. The treatment of the various parts will be nearly the same as the view just described, the difference being principally in the outlines of the several forms.

"A profile will be made most intelligible by introducing the light rather behind the head, so as to throw the receding boundaries of the front of the forehead, eyes, cheek, nose, and chin into a half-tint. The principal lights will be on the upper parts of the temples, the cheek-bone, and the ear; and the principal shadows under the hair, upon the cheek and temples, and under the eyebrow, close to the nose. The whole of the front of the iris of the eye will be light, except close under the eyelashes. The pupil of the eye will be scarcely visible, but the eyeball will appear darkest where the pupil is known to be."

LONDON, February 10th, 1870.

The new Atelier of Loescher & Petsch, in Berlin.

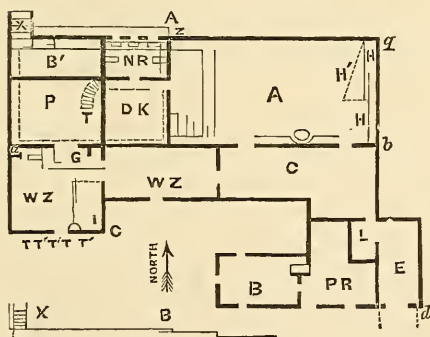
THE knowledge of several deficiencies in the construction of the studio of Messrs. Loescher & Petsch, which in the course of time, became more and more annoying, and gave rise to an unpleasant feeling of being dependent on the peculiarities of the atelier, induced these gentlemen to embody their experience in a new building, which should be, as near as possible, perfection.

The principal ideas which guided them in the execution of this work were, that the photographer, by the nature of his art, is compelled to make the most of the few moments of exposure, to take into account every, even the smallest advantage in regard to illumination, the management of the decorative or technical accessories and utensils, and, finally, to avoid everything which can give trouble or become a hindrance. This is the only way to enable him to devote his whole and undivided at-

tention to the person whose picture he is to take, and to the arrangement and the harmonizing of the principal effects. Another important point is the location of the studio. It should be located on the ground-floor; for, besides this being the most convenient for the public, such a location admits also the total exclusion of direct sunlight, by placing it to the north of a tall building. Attention should also be paid to a proper arrangement of the different work-rooms, partly to save time, partly to enable the head of the establishment to have every department constantly under his eye. These were the general principles which Messrs. Loescher & Petsch tried to embody in their new establishment. How difficult it is to find a locality where all these advantages are combined, anybody who is acquainted with Berlin will know.

The building is located in the garden of the house, Leipziger Strasse No. 132, opposite the porcelain factory. No trees or shrubbery can have an injurious effect on the light, as for a distance of one hundred and fifty feet the space is perfectly clear.

The annexed ground-plan will explain how the different rooms are connected together. The advantages of this arrangement are, principally, that the photographer is enabled, at any leisure moment, to communicate with the counting-room, the mounting-room, the retouching-room, or the copying establishment. He can constantly overlook and superintend the working of all the different departments.



Ground Plan of the Building.

A studio; C counting-house; WZ waiting-room; B mounting-room; PR artist's

studio for coloring; P vestibule; B balcony; DK dark-room; NR room for negative retouching, underneath which are the wash-room and copying-room; T staircase leading to the copying-room.

The main glass-room faces nearly due north, and is protected by the two-story house from the direct rays of the sun. The copying-room, the main side of which also points north, is likewise protected against direct sunlight.

We will now proceed to the details of the building. The studio proper is of the following dimensions: 35 by 17 feet floor, and height from 10 to 14 feet. The inclination of the roof is 4 feet in 17, and is sufficient to remove the accumulated dirt whenever a rain-fall occurs. The moisture on the inside, caused by condensed vapor, runs off through a small slit between the roof and the sides. In this way the gutters, which are generally placed below the supports, could be dispensed with. At the junction of the two glass surfaces is a slight iron rod to carry the rollers for the illuminating apparatus, which absorb very little light. The northern side and about three-fourths of the roof are glazed. The plates of glass are 24 inches square, and only 16 bars were necessary as supports. The central ones are $\frac{3}{8}$ in. by 3 inches; the side ones are an inch thinner. In this way a broad mass of light from the north became available, which, in some particular instances only, had to be modified. It became necessary to invent an arrangement which would exclude every particle of side-light, and reduce the source of light to one opening only. Ease in the management and certainty in the effect were necessary, durability and a pleasing appearance desirable. These considerations induced Mr. Petsch to substitute, for the old-fashioned curtains of doubled muslin, frames covered with some opaque material, which were easily movable and avoided all the shortcomings of the former arrangement. The old arrangement with curtains never excluded the light absolutely, while, at the same time, they would, in course of time, hang down loosely, leaving openings between the different strips, the light from which would be annoying to the sitter and interfere with

a proper illumination, not to speak of the dust and unsightly appearance.

With the frame arrangement the supports for the glass became available as carriers for the frames, doing away with all the rods, wires, rings, and cords of the old establishment. The frames are made of light iron bands, covered with linen, which is made water and light-tight by a coating of glue, chalk, and oil paint.

(To be continued.)

VOICES FROM THE CRAFT.

MYSTERIES OF THE DARK-CHAMBERS.—

MR. EDITOR: The formulæ under the above head in your February journal, will no doubt be instructive to many, and many may go to work with renewed zeal to practise them; but they are so near the same thing as we are all using, that they will be of little assistance to those in the fog. Good formulæ and good chemicals can be readily commanded by every photographer, but the question is *how to use them*. Now it seems to me if the eminent operators who have given their formulæ and say they "have no secrets," would answer the following questions, many a poor fellow might get at the cause of much of his trouble.

What is your method of treating the negative bath? How long do you use it, and what are the *signs* of its failing? Do you precipitate and filter out the excess of iodide? Do you boil, and how much? Do you ever fuse, or remake in any way? Do you *sun* your bath, and do you consider it necessary to have a *double solution*? How do you neutralize? How often is it necessary to make a *new bath*? What is your method of keeping up the strength?

I believe there are more failures from want of proper management of the negative bath, than any other cause connected with the dark-room. Use *good materials* for collodion, pure silver and *pure water* for bath, the *best* of iron for developer, and see that everything is kept in good working order, and almost any formula will make good work. But if a photographer works his bath day after day, and goes home each night leaving it to take care of itself, he will soon come some morning and find it

sick; then, instead of a little rest or healthy renovation, he commences to *dose it*, and the more he doses the worse it gets, till finally he gets disgusted, turns it out, makes up a new one, and goes through the same routine again. Let us have the *mode* of management.

PHOTO.

DEAR SIR: At your request I have given Mr. O'Neil's process a just and fair trial. To do so, I got the purest and best materials, and adhered *strictly* to the directions. I find that steeping the cotton in dilute ammonia water does confer very marked increased sensitiveness to collodion, over collodion made from cotton not so treated, but not to the extent of one-half as claimed. The negatives from this collodion and bath are so excellent, that I shall set aside my mode, and permanently adopt Mr. O'Neil's (this decision calls for no little sacrifice of self-opinion). The silver solution for paper gave me better results than is claimed for it in the process. Negatives that heretofore gave harsh contrasts in printing, gave fine details by the use of this silver solution. The toning is simple, but any desired tone can be obtained by it, with very little consumption of chloride of gold. To photographers: Prepare your glass as described by W. J. Baker (*Photographic Mosaics*, p. 18), and then adhere to Mr. O'Neil's process all through, get pure materials, be sure of that; use *distilled water*. Do not attempt to combine your process with Mr. O'Neil's. If you do, do not wonder that it will not work. By this process you have *all* that is needed to produce the very best of results. Many a time to my knowledge has Mr. O'Neil received \$50 for his mode of working, and were any of you to go to him to-day, he would give no more for that sum than is given you in his process by the editor of this journal for your subscription.

WILLIAM BELL.

PHILADELPHIA, February 11th, 1870.

Mr. O'Neil requested that we ask some of our practical men here to test his processes before publishing them. We therefore asked Mr. Bell to test them, and the above is his answer. Mr. Fennemore also tried the steeping of the cotton in ammonia, and likes it very much.—ED. P.P.

NEW PHOTOGRAPHIC PATENTS.

SEVERAL new patents have been issued lately, the specifications of which are before us. The American genius seems to run very much in the *mechanics* of photography, while our brethren on the other side of the Atlantic pay more attention to the means by which improved processes may be secured.

Mr. J. Glessner, Cincinnati, Ohio, has patented a means of producing artificial clouds, &c., in landscape negatives. The negative is made in the usual way, and with opaque color the sky is painted out. A "sky plate" is then formed by painting upon a piece of glass with opaque color the light portions of the clouds or other light objects to be introduced into the sky, and also those parts corresponding to tall trees and other objects that extend up into the sky above the horizon are painted out in the "sky plate," the object being to exclude the light at those parts in order to preserve the lights of the object printed by the regular negative. In printing, the negative is printed first, of course. When a cloudless sky is desired a plain glass is used, and the part printed from the negative covered with cloth; a "shiftable" shade is used, by which the printer can shade one portion of the sky plate while the other is printing, and by moving it according to circumstances he thus secures a gradation of tint in the sky. This shade is so held as to expose the upper sky, and is then moved slowly down and up during printing, so as to allow the light to act the longest on the upper portion of the sky, and to give an evenly blended tint which becomes brighter towards the horizon. This may be repeated where necessary.

When clouds are to be introduced, then the "sky plate" described above is used instead of the plain glass, and the sky is blended with the shade as above. To make the clouds more effective, a *perforated* shade is held so as to allow a pencil of sunlight through the perforation to fall on such parts of the clouds or sky as need to be printed deeper to harmonize with the subject. Sharply defined objects, such as a streak of lightning, are printed on the under side of the negative, and clouds on the upper side

thereof. A flock of birds may also be introduced from a separate negative, whose entire under surface except the figures is stopped out.

When printing graduated skies in diffused light, a curved or bent shade is used and fixed so the strongest light will fall on the parts of the picture to be printed deepest. Artificial light may be used in printing the skies. The examples furnished the Patent Office are very effective. The great art will be in producing the "sky plates." A careful printer can do the best.

Mr. J. S. Reid, Orange, Indiana, has patented a "stand for exhibiting photographs," made to revolve, for the parlor table, in place of an album. It has no particular novelty about it worth describing. We have only seen the drawings and description.

Several other photographic patents have been granted, viz.: To J. & C. Paxson, New York City, for improvement in solar cameras, by which they make 1st, a single holder suit all sized negatives by means of springs and clamps; 2d, the employment of a bellows in the vignetting device, whereby the vignetting lens may be quickly adjusted altitudinally to enlarge or diminish the size of the picture; 3d, the arrangement of vertical screw rods with the printing-board, for elevating and depressing the same; 4th, the large part of the camera-box is made of canvas stretched over a light framework and properly painted, thus making the body of the camera lighter, and so the heat cannot split it.

Mr. H. M. Hedden, Worcester, Mass., has secured a patent for a japanned photo-paper to be used in place of the iron ferrotype plate, patent leather, etc., and so as to save transferring the film from the iron plate. The paper is japanned on both sides alike, so as to prevent the solutions from affecting it; and the middle is composed of a fibrous material, which permits the sides to be separated easily. The picture is then made on one side—the paper being treated same as an iron plate—separated and mounted on a card mount in the usual way.

Mr. J. H. Stoddard, Ansonia, Conn., has patented a device by which the insertion of the plate-holder displaces the ground-glass, and again when the holder is removed, the

other springs back in place, thus keeping the camera always closed, and the ground-glass always in place. It seems a very useful invention.

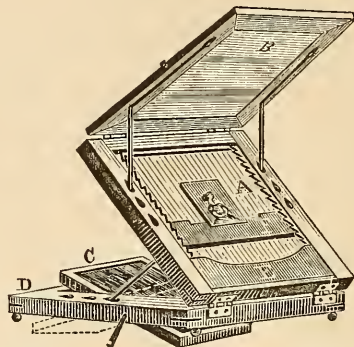
OUR PICTURE.

OUR picture or pictures, this month, are intended to give our readers a practical illustration of the advantages to be derived from retouching the negative. It will be observed that in one the features are coarse, all the rugosities of the face showing, while in the other the skin is smooth and even, yet natural, true, and manly. This great contrast is obtained by working upon the negative film with the lead-pencil or brush. The method has long been practised abroad, and recently has been adopted here by some of our most eminent artists.

That it is advantageous no one will dispute. How to do it is the next thing. We have frequently given instructions in our pages on the subject, and Mr Kurtz, who has practised the method for a year or more, has given very elaborate instructions in Mr. Ayres's second edition of "How to Paint Photographs."

The following requirements must be met to enable you to prosecute it successfully. 1. You should know at a glance what your negative needs to improve it, *i. e.*, you must know where to touch and what the effect will be in the print. 2. You should be quick to appreciate what is natural and what unnatural, so as to work with care. 3. You should have a good retouching frame. Below is a cut of one which we partly contrived, and which we like. It hardly needs an explanation. It is so made as to fold up compactly, but in the cut is represented as placed for use. A is a ground-glass on which the negative is placed. C is a silvered mirror working on pivots, so as to enable one to change its position and reflect the light wherever wanted. This latter is a great advantage, for the light can be intensified on any part of the negative that you are working on at the time. B is a shield for the eyes. D is the frame or stand bearing the whole. When not in use the supporting rods are folded in, and the whole shuts up compactly, which keeps it

always clean. E is a rest for the arm, and slides up and down. F is an adjustable support for the negative. In use, the frame is



set on a table at a north window if possible. The sun should never shine on it. Faber's pencils F, FB, and B, brands are best. We shall give further instructions as we get them, and meanwhile refer to Mr. Ayres's work and our former papers on the subject. We hope those of our readers who are practised will give the benefit of what they know.

The negatives for the pictures were made and retouched by Mr. J. F. Ryder, Cleveland, Ohio. Mr. Ryder obtained an artist from Germany some time ago to do this class of work, and finds it a profitable investment. The negatives have been much printed from, and yet show no signs of wear. They are very perfect as negatives, and we have received the following notes concerning them from Mr. Ryder.

"I use for

COLLODION.

Alcohol,	32 fl. oz.—1 qt.
Ether,	22 " —1 lb.
Iodide of Ammonium, . .	270 grains.
Bromide of Cadmium, . .	108 "
Cotton (mixture of Anthony's and Pary's), . .	270 "

SILVER BATHS.

From 40 to 45 grains strong, slightly acid.

DEVELOPER.

Common Proto-Sulphate of iron	
to 1 pint of water,	1 ounce
Acetic Acid, No. 8,	2 ounces.

The instruments used, were Voigtlander & Sons $\frac{1}{8}$ size twin tubes, size of stops $1\frac{1}{8}$ th

inch, time of exposure 30 seconds, on a cloudy day.

My light is 10 feet wide and 15 feet long, the lower end of sash $6\frac{1}{2}$ feet from floor, and stands at an angle of 45 degrees.

I use neither blue frosting or ground-glass—simply plain glass. Neither do I use screens inside. My background is a painted one, and stood about three feet behind the subject.

My retouching artist does not employ any of the various means suggested for a biting surface. The negative is varnished with any good sample of varnish, and he works upon the smooth surface, with a hard lead-pencil, and with Prussian blue, moist color."

The prints were made by Mr. William H. Rhoads, Philadelphia, on Trapp & Munch's German albumen paper. Mr. Rhoads's formula for working this paper was given in our last issue. Mr. Rhoads seems to have exceeded himself in these prints, and we hope our readers will derive much practical advantage from our illustration. The gentleman who kindly sat for the negatives is well known in photography, as many will find when they go to Cleveland next June.

WRINKLES AND DODGES.

For a light screen in my dark-room, I have used successfully yellow paper pinned together in the form of a cylinder, about 10 inches long, and 4 or 5 wide. A piece of steel out of a hoop-skirt, pinned into the top and bottom by a sort of "hem," gives necessary stiffness, and it can readily be set over a candle or removed.

To enable me to wash my labelled bottles, I varnish the labels with shellac. They do not stain from the solutions, and are waterproof. I informed Mr. Hull of this one day, and found he had done the same several years before.

Perhaps you have used wide-mouthed bottles with very shallow corks in them, and broken the edges of the cork in its frequent removal; you couldn't dig it out with your finger-nails and your penknife was not in your pocket to help you. To remedy all that, remove the paper, which always comes

on the cork, then insert the cork with a new piece of paper, say 5 or 6 inches square, into the bottle, double up the corners into a twist, and you have a handle to pull the cork by, which can be renewed as often as necessary.

I notice in the last journal a plan of keeping prepared paper, by washing out the free nitrate and fuming when it is required for use. It strikes me that the same idea ought to be applied to dry plates with success. Wash and dry without preservative; fume before or during exposure; soak thoroughly and develop with retarded iron developer. Has any one tried it?

ROBERT SHRIVER.

CUMBERLAND, MD.

In one of the numbers of this journal in 1866 it was proposed to use wooden dippers. I immediately fashioned one to my own taste, made it very hot in an oven, and gave it a good bath of hot beeswax. The two I am using now have stood in the solution day and night for two years, and do not harm the silver bath the least.

The winter of 1867-68 I had cyanide sores on my hands for several weeks. My family physician failed to heal them. I then, on going to bed, wrapped my hands in muslin wet in rain-water, and kept them wet all night from a dish by my bed. After three nights' treatment in this way they were well.

W. P. BENNET.

MARIETTA, O.

ABOUT seven months since I put a lead faucet in my water tank, and since that time I have been troubled with spots on the pictures or ferrotypes. They appeared white, and in my negatives they were very troublesome. When I made the prints I had numerous spots to touch out; but last week I observed the faucet was wearing, and I concluded at once that it was the cause of all my trouble. So the next picture I developed I took a tumbler of water and flowed over the plate before letting the water on out of the tank that had the lead faucet, and I had no spots. My trouble was at an end then, as I had the lead faucet taken out immediately and an iron one placed instead. I have had no trouble since.

G. W. SITTLER.

SHELBYVILLE, ILL.

THE PHOTOGRAPHIC WORLD.

Licht (light) is the title of the journal of the Photographic Society of Berlin, edited by L. G. Kleffel, Esq.

THE "Industrie Blätter" is the title of a new German journal, edited by Dr. Jacobsen.

DR. VOGEL is preparing a work on photographic aesthetics, to be profusely illustrated.

VERY pretty effects may be produced by backing collodion transparencies with silvered, gilt, or bronzed papers.

THE *Photographic News* says Mr. Ayres's "How to Paint Photographs" is "evidently the work of a practical man who is perfectly familiar with the work he describes." Also, that "each year's issue of *Mosaics* improves, and this (1870) is decidedly the best of all."

UNDER-EXPOSED pictures can be improved by developing them to their full extent, then shaking and tossing them violently and redeveloping.—*Light*.

MR. FOWLER, Paris correspondent of the *British Journal*, doubts the truth of the assertion that the Paris photographers keep a "dummy" baby for the use of those who fancy maternal poses.

MR. RUTHERFURD has lately photographed successfully the star group of the "Pleiades." He has measured them micrometrically and found his measurements to correspond with those of the celebrated Berrel. Mr. Berrel was employed for eleven years in his measurements. Mr. Rutherford accomplished them in one night. So much for photography.

M. DUBOST, says the *Bulletin Belge*, prepares his plates for the coffee dry process with the following collodion:

Alcohol,	30 grams.
Iodide of Ammonium, . .	$\frac{1}{2}$ gram.
" Strontium, . . .	1 "
" Cadmium, . . .	2 $\frac{1}{2}$ grams.
Bromide of Cadmium, . .	1 gram.

The solution of coffee is prepared with 30 grams of burnt and ground coffee and 15 grams of white sugar in 300 grams of boiling water. Develop with 2 grams of pyro-

gallic acid, to which add 6 grams of silver nitrate and 6 grams of citric acid in 100 parts of water.

AMONG the members of the Photographic Society of Berlin, we notice Miss Paul, photographic atelier, in Stella, Prussia; Mrs. Ida Rath, photographic institute, Kissingen, Bavaria. Woman's rights have entered the realm of photography.

As it may interest some of our readers to have a water-proof covering for their tents, we give the following process from *Light*: In a bucketful of water place half a pound of sugar of lead and half a pound of alum; stir from time to time until the liquid has become clear. The material to be made water-proof is placed in this for twenty-four hours and dried without wringing.

AT a recent meeting of the London Photographic Society, Mr. Dallmeyer, having placed three lenses on the table, said "that he had frequently to answer questions respecting rapidity and angle of field that the lens covers. Many persons compared lenses together, which, although of the same diameter, were otherwise quite dissimilar, and intended for different purposes. The three lenses before them were of the same diameters (two inches), but their distinctive features were entirely different. One of them embraced an angle of 100°, another an angle of 75°, while the third included 50° or 55°. It would be observed that, although of the same diameter, there was a great difference in their respective lengths; that which was the shortest embraced the greatest angle. Rapidity in a lens was purchased at the expense of diminution in field. The angular aperture of these lenses were respectively $\frac{1}{5}$ th, $\frac{1}{3}$ th, and $\frac{1}{4}$ th; that is to say, there was an inch of aperture for so many inches of focus, and the relative exposures would be as 1, 4, and 8 seconds."

Here is a great deal of information in a very few words, and worthy of the especial attention of those who ignorantly condemn a lens very often because it won't "do everything." A blacksmith cannot make a nail with a sledge or weld a bar with a nail hammer, neither can a photographer make one lens do all classes of work.—ED. P. P.

Editor's Table.

A DESIRABLE ESTABLISHMENT FOR SALE.—Our readers will notice in our *Specialties* that Mr. John Carbutt, the eminent Chicago photographer, advertises his photographic establishment for sale. With an excellent, first-class patronage, the choicest location, a favorable and extended lease, and every convenience, this is an opportunity rarely offered. Mr. Carbutt has determined to devote himself entirely to the Woodbury process, and therefore makes the offer. We have twice seen the establishment, and all the owner will say for it can be relied upon. There is an admirable chance for some one.

SAD ACCIDENT.—On the evening of February 4th, while Mr. J. W. Black, of Boston, and his worthy assistant, Mr. J. L. Dunmore, were about to commence a lantern exhibition in Lowell, one of the gas-bags exploded with tremendous force, threw Mr. Dunmore high in the air and burned him sadly about the face and eyes, knocked Mr. Black senseless, drove a stick through the nose of the organist, and damaged the organ-loft, organ, and church considerably. Mr. Dunmore, at this writing, still lies suffering much and very low, but, with great care, it is hoped, may recover his sight. Mr. Black, though much hurt and quite deaf, faithfully applied restoratives to Mr. Dunmore the whole night of the accident, or the poor sufferer's sight would have been gone. Mr. Dunmore's many friends will be grieved to learn this, and with us heartily sympathize with him and hope for his speedy recovery. We have not yet learned the cause of the accident. When the explosion occurred, some old revolutionary female spirit innocently inquired of her neighbor if "that was the signal to commence the exhibition."

In Mr. Kruse's formula last month, at bottom of page 55, it says "to the remainder add 6 ounces of liquor ammonia," etc., etc. It *should* be to the remaining 6 ounces add, etc., etc.

REPORTS OF THE TOTAL ECLIPSE OF THE SUN OF AUGUST 7TH, 1869.—Through the courtesy of Com. B. F. Sands, Superintendent United States Naval Observatory, Washington, we have received a copy of this report, which is very elaborately and handsomely executed. It contains the reports of the observations made by the following parties: Com. B. F. Sands; Prof. S. Newcomb, U. S. N.; Prof. William Harkness, U. S. N.; Prof. J. R. Eastman, U. S. N.; Dr. Edward Curtis, U. S. N.; and of Mr. J. Homer

Lane, who were stationed at Des Moines, Iowa; of Mr. W. S. Gilman, Jr., who was at Sioux City; of Mr. F. W. Bardwell, at Bristol, Tenn.; of Brev. Brig.-Gen. A. J. Myer, who was stationed on the summit of White Top Mountain, near Abingdon, Virginia, and of Prof. Asaph Hall, U. S. N., at Plover Bay, Siberia, together with lithographs of the observatory at Des Moines; of Dr. Curtis's photographs of the eclipse, drawings illustrating the several reports, etc., etc. Accompanying the report from the Surgeon-General, through his assistant, Dr. C. H. Crane, were several photographs from Dr. Curtis's negatives. Dr. Curtis's negative of the corona was the most perfect one taken of that phenomena, we think, and is a grand affair, though his partial phases are not so good as others. His report is very elaborate and highly interesting, and we shall have occasion to make extracts from and allusions to it hereafter, especially in relation to the "luminous band" or line of light which appeared in some of the eclipse negatives taken by nearly all the different expeditions. The whole get-up of the report is exceedingly creditable, with the exception of some of the lithographs, which, to those who witnessed the totality, are anything but refreshing. No government in the world has ever acquitted itself so handsomely as did ours, in giving every possible facility for the proper observance of the eclipse. It is receiving the highest commendation from all parts of the scientific world, as are those who observed and photographed on that eventful occasion.

THE YEAR-BOOK OF PHOTOGRAPHY AND PHOTOGRAPHIC NEWS ALMANAC for 1870, by G. Wharton Simpson, A.M., has been received by us, full of matter of vital interest, from the masters of the profession in the Old World. The quantity of matter which the able editor gives us for so small a sum, and of so good a quality too, is astonishing. One cannot open it at any page without finding *something* that is useful and valuable. The *Year Book* is the parent of all our photographic annuals, and is well worthy of that dignity. Benerman & Wilson are the American publishers, and will soon have it for sale.

The *British Journal Photographic Almanac* for 1870 is also received, and, like its competitor, is full of good and useful matter that every photographer ought to read. Mr. J. T. Taylor is the editor, as usual, and, as usual, has displayed

no ordinary tact in its get-up. Messrs. E. & H. T. Anthony & Co., New York, are the American agents for its sale.

The Photographer's Annual for 1870, edited by A. H. Wall, J. W. Green, London, publisher, is the third English photographic annual. Mr. Wall prefers to issue his annual of the same size and style as his journal, *The Illustrated Photographer*, and treats us to a splendid variety of matter and subjects. All three of these English works may be described in four letters—GOOD.

ANSWERS TO CORRESPONDENTS.

J. REID.—We do not think there is any *law* that would *compel* you to remove a picture from your show-case unless damages could be proven, but would it not be policy as well as most courteous, to obey the will of your patrons in such cases?

GEORGE.—The copies of Mr. Robinson's book which we furnish, are of the *English* edition, and the pictures and all are made in England. It is a book we would desire much to have *studied well* by all of our readers. They would find it invaluable.

J. B. DAVISON (WOLFVILLE).—The whole of the "Spirit Photograph" humbug was reviewed in our last volume—New York Correspondence—and all the "probable" and improbable "methods" given at same time.

S. P. TRESSLER.—The wooden screen you propose would rob you of too much light. You should coat the inside of the glass with blue frosting, rather thick, and use the curtains besides. Ground-glass instead of plain would diffuse the light also, but we prefer the other.

E. V. SEUTTER.—Adding alcohol and water to your negative developer is sufficient and right to fit it for ferrotypes, etc., but, if you get "*too much intensity*," you should thin your collodion with iodizing solution, or, as some improperly call it, "collodion minus the cotton."

JULIUS HALL.—Your print is evidently toned in a bath too fresh, and the collodion has attacked the print, or there is too much gold in your bath and the print is toned too quickly. Hence, the minute reddish spots covering it.

W. R. BROOKS.—Received, but too late for this issue. Thanks.

G. S. (OTTUMWA).—Although we expressed our willingness to help our subscribers when in any *special* trouble, we did not propose to teach them the whole business, from one end to the other, by letter. Get some good books on the subject, and, if you have not skill enough to get

along, then you would do well to get some professional photographer to instruct you. We cannot find time to do that.

AMATEUR, 23 WEST THIRTY-FOURTH STREET, NEW YORK.—The *excessive* use of tungstate and acetate of soda has caused your toning bath to become too alkaline, and that is why your gold precipitates. In using those ingredients, your toning bath should be made only a few hours before using.

H. B., JR.—The "Sliding-box" case will probably be heard the last of this month. We have no doubt of the decision being right. Of course, *every* photographer ought to assist Mr. Schoonmaker. He has worked hard, has spent a great deal of time and money, and will *save you* a great deal. We will cheerfully forward any sums sent us for him, though we should prefer they be sent to him. If photographers shirk their duty in this instance, they deserve to be burdened with odious and oppressive patents. Mr. Schoonmaker will positively not give up.

G. W. C.—Mr. Luckenbach's method was fully described in our last volume. When he first told us of it we would have willingly advertised it for him, and on promise of advertising patronage, we wrote a circular for him which he was too illiterate to write for himself. After wasting several hours of our time he offered us a second-hand $\frac{1}{2}$ tube as part payment for advertising. This we declined, of course. He then left us, promising to send the cost of an advertisement "soon." After he had gone, shortly, we found he was threatening everybody he met, who silvered paper by the old and well-known method of folding up the sides of the sheet so as to hold the solution, with prosecution "for infringement." Moreover, he attempted to humbug parties by offering "valuable receipts" for a consideration. For those reasons "his advertisement was not allowed to appear in our journal." Does this explain the "seeming inconsistency?" We have some of his licenses for the full term of the patent duly signed by him, and will present you with one on receipt of three cents to pay postage, or send us your address and we will *give you one*; or if not you, *the first applicant shall have it free*, postage thrown in.

D. E. COTTRELL.—The "white scum" over your ferrotopes is evidently caused by keeping the plate sensitized too long before exposure, thus allowing the silver to crystallize. Dirty plate-holder and too much alcohol in the bath will cause a similar trouble.

MR. MANLY GAYLORD, Medina, N. Y., was burned out November 9th.



H. J. NEWTON,

Boston Public Library.

NEW YORK.

Tint Dry Process.

T H E

Philadelphia Photographer.

Vol. VII.

APRIL, 1870.

No. 76.

Entered, according to Act of Congress, in the year 1870,
By BENERMAN & WILSON,

In the Clerk's office of the District Court of the United States for the Eastern District of Pennsylvania.

DOINGS OF THE SHAW & WILCOX COMPANY.

ARREST AND BINDING OVER OF THE EDITOR OF
THIS JOURNAL FOR "MALICIOUS LIBEL."

A Discourse to Photographers.

Subject.—On Friday morning, March 11th, 1870, while walking with my wife to the Courtland Street Ferry, New York, on our way home, after nearly two weeks' absence, I was met by Jehyleman Shaw, "President" of the "Shaw & Wilcox Co.," so-called, pointed out by him to a deputy sheriff of New York, and by the latter arrested, taken to the Sheriff's office, and there detained until I could procure \$2000 bail for my appearance at court when directed, to answer a charge of the said Shaw, for "malicious libel." Said "libel" being the publication in this Journal, February, 1869, of an article by Mr. V. G. Bloede on the Shaw & Wilcox Silver Saving Apparatus, and my remarks thereon, together with my remarks on the same subject, as editor of this Journal, in the last issue; damages claimed by said Shaw being \$30,000.

Although the said Shaw swore in his complaint that he knew me, he had never seen me but once (on an occasion we will never forget). I am informed "he was obliged to stop several other persons at the ferry, taking them to be me, before he caught the right

one, and that in the middle of the night, suspecting that I might be in the city, he was prowling around hotels to hunt me, and awakened the deputy sheriff, as early as 4 A. M., fearing that I might get away from him." I, of course, had but little delay in procuring necessary bail in New York, and was only delayed a few hours. I make this statement personally as a prelude of what follows editorially.

EDWARD L. WILSON,

Editor Philadelphia Photographer.

The above statement need not give our readers any alarm. The fact of our arrest is a great compliment to the *strength* of our Journal, which we ever intend every man disposed to take advantage of our subscribers shall *feel*, and is it not a most convincing evidence of the *weak faith* Mr. Shaw has personally in the claims he makes respecting his patent?

What would you think if your neighbor should invent and patent a new lock for a door, and then with his patent papers in his pocket, prowl around the country and tell you and everybody else that unless you used his lock on your door, or paid him a royalty, you could not lock your door at all, even though the lock thereon be one that your grandfather used before you? And if you refused to buy his lock or pay him "a royalty for infringement" he would

shut up your house and imprison you until you settled with him? Would you not laugh him to scorn, or pity him for his insanity?

And is not such the conduct of this man Shaw and his confederates, and dare not the editor of a respectable Journal say so, forsooth, or discuss the merits and demerits of the case, without being arrested and held under heavy bail to answer a complaint for "malicious libel," and to show cause why he should not pay "\$30,000 damages"?

Will photography flourish and grow with such a state of affairs?

Will photographers prosper if such outrages are allowed?

As we have before stated frequently, the aforesaid "Co." have prosecuted Mr. George W. Lovejoy, of Stepney Depot, Conn., for infringement of their patent, their patent, as we stated in our last issue, having been described in this Journal some time ago, and is a mere contrivance for catching and precipitating photographers' silver wastes. Because the "Co." had a patent for the said contrivance, can they absorb the insane idea that *every photographer who saves his wastes by precipitation* (see extract from Shaw's letter in our last issue, page 73), "infringes" their patent? Can they confront photographers with this idea, and claim a settlement? We leave this for our readers to answer.

Mr. Lovejoy, we are told, merely uses a barrel for recovering his wastes in, the same as thousands of other photographers use. Mr. Shaw, or his agent, waited upon him, claiming that the said barrel was an infringement upon the Shaw patent, and so was the fact of his recovering his wastes by precipitation, no matter what sort of a vessel it was done in. This Mr. Lovejoy could not understand, and resisted such claims. He stated his case to us, and we answered him that, in our opinion, Mr. Shaw's claims, as he represented them to us, could not be sustained in court. He then sought legal direction, and was advised to contest the validity of the claims made upon him, E. Y. Bell, Esq., 43 Wall Street, New York, acting as his counsel. But Mr. Lovejoy is poor, and litigation is expensive. He therefore called upon the trade to help him, the

matter being of quite as much moment to them as to him. Very little response was made and he appealed *personally* to several, but with little success, however; photographers seemed to be asleep on the subject. He collected much good testimony, however, but every time a meeting was held before the United States Commissioner to take testimony, the costs were added to, and his funds are about exhausted.

Mr. Lovejoy and his counsel feel, and with what propriety our interested readers must judge, that it is of vital importance to the whole fraternity to have the case continued, and to go on taking testimony of a convincing nature against the claims advanced. Will not those photographers, whose views of Shaw's claims accord with Mr. Lovejoy, help Mr. Lovejoy to test the case, in order that it may be legally decided whether said claims are valid or invalid? It is for you to infer, whether or not such an investment will prove more profitable than letting your wastes go down the sink, or settling the claims that may be made upon you if the case goes by default. Do not understand that the opposition is to Shaw's patent. What he has patented is, possibly, harmless enough, but the opposition is to *the construction he puts upon his patent*, and which, it is felt, are not authorized by his letters patent. Of all the persons in the world, *we* are the *least* interested in the result of this contest. If the claims are sustained, we have nothing to pay, and if they are not we have nothing to gain. Our action in the matter is entirely on account of the desire we have to see photography and its votaries unhampered by hindrance of that kind. We may repeat, therefore, our honest conviction that Shaw's claims should not be sustained, and that it is of vital importance to the trade that they should not be. For our part we wish Mr. Lovejoy success.

The suit against us, of course, has no connection with Mr. Lovejoy's. We shall manage that satisfactory to all. Mr. Shaw asserted, we are told, that "unless we apologized he should sue us for damages." We never made an apology that we were satisfied with afterwards, so we resolved to "move on without change" in this matter.

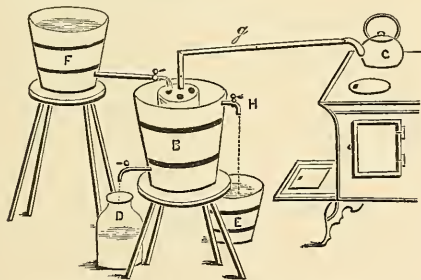
Consequence, an arrest, &c., as stated. So much for defending the interests of our subscribers. The end is not yet. If we have space, in our next we shall publish his complaint. We trust it is giving him much consolation. "So mote it be." See remarks of President Bogardus on this subject on page 117.

Rectifying the Nitrate Bath.

BY F. W. SPENCER.

I HAVE found the following an excellent treatment for the negative bath overcharged with iodides and weakened by the quantity of alcohol and ether dissolved therein.

Having turned the bath into a glass jar, at least large enough to hold twice the volume of the bath, add to it distilled water until the bath is reduced to 15 or 20 grains to the ounce; it will assume a milky color, but will clear up by being allowed to stand a few hours, after which filter closely into an evaporating dish, evaporate slowly over a water-bath until it is only about one-eighth its original volume (120 to 130 grains to the ounce), remove, cool, and add distilled water until it is brought to the standard of strength desired. Let it stand one day in the sunlight, when, after filtering closely, it will work charmingly, and pictures will not easily fog.



I send you a sketch of a contrivance for a still. A is the condenser perforated with water flues; B, the tank in which the condenser is immersed; C, the generator; G, the steam pipe; D, the receiver of distilled water, and F, the supply cistern of cold water, which should be so placed that the water will fall upon the top of the condenser; E is the hot water waste taken out at H. I find this arrangement to work well.

THE EXHIBITION

OF THE

National Photographic Association of the U. S.

THE following circular has been printed in German, French, and English, and sent abroad to foreign photographers. That none may be missed we reprint it here again. Will our foreign exchanges who have not done so, please oblige us by copying the same, viz.:

THE NATIONAL PHOTOGRAPHIC ASSOCIATION OF THE UNITED STATES will hold its SECOND ANNUAL EXHIBITION in Cleveland, Ohio, beginning Tuesday, June 7th, 1870.

You are cordially invited to expose examples of your work on that occasion. Ample space will be granted in the best light, *free of charge*, to all foreign exhibitors.

It is expected that a grant from Congress will allow the entrance and return of foreign specimens free of duty.* Parties who desire that what they send should be *sold* for their account and not returned, will receive the best attention to their wishes. In all cases, *two itemized invoices* should be sent to the Secretary, and notice as to date of shipment, name of steamer, &c. The freight must, in all cases, be prepaid. Packages should not be sent later than April 25th, and should be directed as follows:

NATIONAL PHOTOGRAPHIC EXHIBITION.

Care EDWARD L. WILSON, *Secretary*,
PHILADELPHIA, U. S. A.

☛ Via Steamer to Boston.

The Cunard steamers sail from Liverpool, England, for Boston, every Tuesday; those of the Inman Line every alternate Saturday. Further information cheerfully given on application.

We hope you will respond to our invitation to join us in this grand Exhibition.

Executive Committee, { J. W. BLACK,
J. CREMER,
W. C. NORTH,
J. F. RYDER,
D. BENDANN.

EDWARD L. WILSON, *Secretary*,
Office Philadelphia Photographer,
Philadelphia, Pa.

American photographers who intend to exhibit will find instructions fuller in this and in our next issue. Any American or Canadian photographer may exhibit freely,

* This has since been done, so that all articles sent for exhibition will be admitted free of duty.

whether a member of the Association or not. The Exhibition is a *National* one and *all* are invited to participate freely. Fuller details as soon as the Executive Committee and Local Secretary are able to complete their arrangements. The list of railroad companies who commute for the benefit of photographers will be given in our next.

J. F. RYDER,

Local Secretary, Cleveland, Ohio.

A NEW STEREOSCOPIC CAMERA.

OUR readers will remember that Mr. G. Washington Wilson, the world-renowned Scotch photographer, in the paper on landscape photography he contributed to our pages some time ago, asserted that he preferred a 5 x 8 camera for stereoscopic work, and he had it so arranged that the centre diaphragm could be taken out, the front changed, and with one tube, upright or horizontal, *single* views could be made with the same camera. An example of work made by Mr. Wilson in that way appeared in our last July issue.

The American Optical Company, New York, with commendable enterprise, have manufactured these boxes to accommodate the approaching spring trade, and we append two drawings of them.

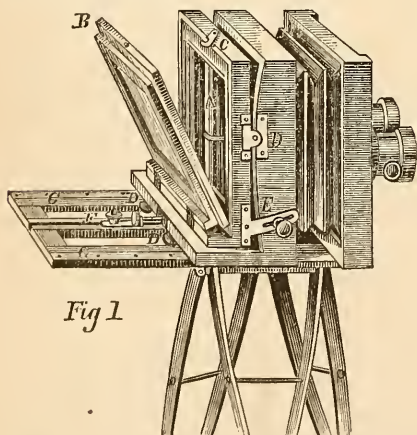


Fig 1

The first represents the box as it is used for ordinary stereoscopic work. It is a perfect piece of workmanship, beautiful, strong, and light, combining all the little neat parts that go to making up a fine piece of apparatus. The platform is hinged so that it

may fold up compactly; the bellows is rubber; the body of the camera slides on metal guides; the focussing screws enable one to focus exactly and quickly; the swing-back, which is indispensable for landscape work, is attached; the front raises and lowers, and the holder is made to fit on pins, which is far preferable to a holder which slides. The ground-glass is hinged fast. The second figure represents the box turned over on its

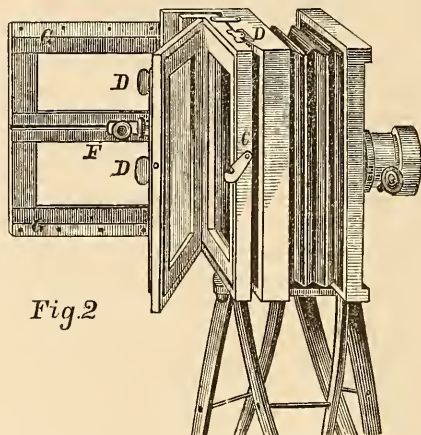


Fig 2

side, for the purpose of making an upright single view with one tube. The partition or diaphragm A (Fig. 1) is removed, so the plate is not obstructed or divided. C is a clasp which holds the holder in place when the exposure is being made, and at E is a clasp and screw, which keep the holder at a proper swing or angle when it is necessary to use the swing-back. G G are the metal guides; D D screws which bind the platform to the box when in use; F the focussing screws.

The American Optical Company make the very best of apparatus, and, as we know by experience, their boxes are a joy to work with.

UNDER THE SKYLIGHT.

BY ROLAND VANWEIKE.

(Continued from page 76.)

Now this young lady is not so easy to manage; all young ladies are not so, however. It seems difficult to keep her in one place long enough to tell how she will look best. She is a little nervous, but we will proceed coolly and quietly, and she will get

over it. Care must be taken with such subjects as this, Focus, in vignette or bust pictures, to have the head properly balanced on the shoulders, and the direction of the eyes natural and easy. We often see heads lopped on one side, with a peculiar twist of the eyes as though the subject were trying to look at you round a corner. Avoid this, or any position that will tend to make your sitter look awkward or uneasy. Observe well the lines of your subject, having them harmonize and balance as much as possible. Angles or straight lines should be corrected as far as it is admissible to do so. With this elegant specimen of a young gent, however, who lisps and parts his hair in the middle, wants a directly front view, so as to show *both ears*, and thinks he "can sit without that thing against his head," we need not trouble ourselves about angles or straight lines. But this young lady you see, her curl hangs down in front, in a straight line; by simply carrying the bottom end a little to one side, we break it up into a graceful curve, which has a much more pleasing effect. But, Focus, you ought to come around behind this subject. Here's where a poser is at his wits' end, and concludes he is not the only poser in the case. Such a pack on the back of this lady's head! I call it a pack, because in size and shape, it reminds me of the packs I have seen carried on the backs of peddlers in the country. What can it be made of? Don't question anything about it; the matter before us now is, where are we to put the head-rest? Mr. Wilson and Mr. Sarony have done well for us, but human ingenuity could never have foreseen this. To get under it, around it, or over it, is impossible, so we will make a bolt into the midst of the huge mass and find a bearing somewhere. For this fair-complexioned lady, now the light has improved, from fifteen to twenty seconds' exposure will be sufficient.

But here is a change of scene for us, Focus; here comes a youngster. "I want him shtanin oop!" Of course, every child must be standing if it can stand alone, especially of this class of customers. There are some good sensible people, however, that let us use our own judgment in the matter, and we are allowed to make that

that will be best adapted to the child. It is not well to yield too much to people's whims when they bring their children, or they will demand impossible things of you, and damage your reputation if you undertake and don't perform them. A little firmness will enable you to have your own way, make such a picture as can be made best, and in the end please your customers, and make them respect you all the more. But this little man seems well disposed; we will stand him here. Get him to lean against the chair in an easy natural position. That's very well. There's nothing can equal the ease and grace of children generally, and I do love them as photographic subjects, as well as otherwise, when they are at all manageable. Now this youngster only needs to be attracted by this toy, and he looks steadily eight or ten seconds, which is sufficient.

Ah, here comes another! a baby this time; a jolly soul too, I judge. Now, Focus, keep your eyes about you. We will sit him—ah, a girl is it—well we will sit her in this highback chair. Various styles of chairs have been invented and used for children, but after all there is nothing more successfully used than a common parlor arm-chair of small size. Now, this is a nice baby; just sit her so her head and back will rest against the chair. That's a splendid little girl—of course that pleases the mother. Oh, yes, you are very clever. Now it does not do to waste any time in getting a focus on this subject, only be sure you have it; and make every motion tell in getting your plate in its place. Draw back the curtains so as to get all the light we can; that's it. Now for the grand flourish! Bring on the animals and the show will commence, all for the benefit and edification of the baby.* Here we have barking-dogs, mewling-cats, singing-birds, jumping-jacks, watchmen's rattles, whistles, bugles, bells, etc., etc.; and with some of these we will try and astonish her a little as well as amuse her. Now look here, bow-vow-vow rohr-r-r-r-r-r—buzz-z-z-z-z-z-z-z-z-z-z-z-z!! That's it.

* In some cases it may be found necessary to be *one of the animals* yourself, and skill in gymnastic exercises will prove of great advantage.

Did very well. That's a good enough baby to deserve a kiss. This is hard, stern business, but then it pays to make it pleasant if we can.

There, Focus, I am going to get through the rest of these without any further explanations to-day. When we have some different styles to make I will give you some further instructions.

Enamel Photographs—Burnt-in Photographs.

BY PROF. J. TOWLER, M.D.

(Continued from page 70.)

EXPOSURE.

Place the glass positive first in the pressure frame, film side upwards, and the chromic plate just prepared with its film downwards, and in contact with the positive film. Since the two plates are perfectly flat, but very little pressure is required to keep them in apposition. Close the back of the frame, and expose to the sun's rays for about a minute, or until the sky part of the landscape or the face of the portrait is covered with moisture eliminated by the action of the light on the parts beneath. This is quite visible to the sight, a phenomenon due to the observations of Geymet and Alker. Of course a much longer exposure is necessary in different light, even as much as three or four minutes. Much experience is required in hitting upon the right time; and if the time is not right, it is not advisable to try to patch up a picture by forcing it; in fact it is no use to try to get any picture at all with an over-exposed plate; for in this case the sensitive film has lost all its moisture in every part, so that the enamel adheres nowhere. But an under-exposed plate is still too moist all over, and attracts too much of the fine powder. This trouble can be slightly remedied, it is true, by warming the plate slightly, when a portion of the powder drops off, or may be brushed off.

DEVELOPING THE PICTURE.

This operation is performed in the dark or yellow-room, as is customary with the ordinary collodion picture. The rule is this, in very dry weather: to allow the plate to

get cool before exposure, and to wait two or three minutes before you proceed to development; on the contrary, if the weather is damp, the plate is exposed right away whilst still warm, and developed immediately under the same conditions. Attending to these precautions develop accordingly. The developer is in reality an *impalpable glass or enamel powder*, perfectly dry. You use a large camel's hair pencil, also perfectly dry. Dip the brush or pencil into the powder, and rub it round in the powder, and then transfer it to the exposed film. Pat the film with the pencil all over in a perpendicular direction, so as thus to transfer some of the powder to every part of the film, then rub the powder gently into the film by a circular motion, beginning at one corner and proceeding in small circles all over the film. It is well to have a light beneath the plate of glass, or a sheet of white paper, in order to watch the progress of the development. The powder (of any color you may desire), you will now observe to adhere in different parts and not in others, and thus to form the picture. The image thus formed must be very clear; it is not necessary, however, that the shades should be thick and heavy; if the picture is only distinct, like a positive before it is intensified, or like a negative for solar work, it will come out all right when fused in the muffle.

FIXING THE PICTURE.

The picture is first coated with a film of plain collodion consisting of equal parts of ether and alcohol, and about eight grains of gun-cotton to the ounce of liquid. As soon as the collodion has set, that is, in about two or three minutes, the plate is immersed in a dish of clean water rendered acid either with hydrochloric or sulphuric acid. This mixture soon removes all the free chromic solution in the film. Let the plate remain in the solution about ten minutes, and then take it out and with a sharp penknife cut all round the edges of the film near to the edges of the glass, and immerse the plate in another dish of clean water, in order to remove the free acid left by the fixing solution.

TRANSFERRING THE PICTURE.

This immersion in water will cause the

film to separate from the glass and to rise to the surface of the water. If the film refuses to separate easily, immerse it again in the acid water, but do not attempt to force the film to separate. Wash the film well so as to get rid of all the acid, and then transfer it to the following saccharine solution.

Water,	.	.	.	.	1 pint.
Sugar,	.	.	.	.	2½ ounces.

The transference is made from one vessel to another by placing a piece of paper beneath the film and lifting it out. With care there is no danger of injuring the film by this transference. Let the film remain in the sugar solution about five minutes. The sugar, like so much glue, is intended to cause the film to adhere to the enamel plate. The enamel plate requires no further preparation than simple cleaning. You slide the plate beneath the film, bring the upper edge of the latter in apposition with upper edge of the enamel (it inclines downwards), and then draw the plate gently from the fluid, letting the film fall gradually upon the plate. The enamel plate itself is supported on a plate of glass, with an elevated ledge at the bottom, cemented on with shellac; this plate of glass, in the form of a dipper, is bent at an obtuse angle, to allow the enamel plate to slide underneath the film; it is held in the left hand, whilst the right hand is at liberty to guide the film, in order to bring the upper edge in apposition with the enamel, as before said. When the film is once in its place, let it drain, and afterwards place the plate on a piece of blotting-paper resting on a thick plate of glass. Above all things, before the plate leaves the sugar-water, see that there are not folds in the film; and if such exist, remove them by gently pulling the edge of the film in the proper direction, but make no attempt to effect this by pressure. Very small inequalities can be removed by stretching the film as it lies on the blotting-paper. When the surface is quite smooth, place over it a piece of tissue-paper, and bring it into contact by patting it with a piece of cotton-wool. See that the film adheres uniformly, and that there are no bubbles. Remove the tissue-paper and put a dry piece in its place, using continually the tuft of

cotton to produce uniform contact. Afterwards set the plate aside to dry in the air, but not by artificial heat.

REMOVAL OF THE COLLODION FILM.

The next step is to remove the collodion, which is effected by immersing the enamel plate on the glass dipper in a dish of concentrated sulphuric acid. Without this precaution the collodion would peel off during the fusing operation, and carry with it some of the enamel powder. An immersion of ten minutes or a quarter of an hour will be sufficient time for this purpose; as soon as you perceive a reddish-brown fringe around the edges of the plate, slide the enamel plate gently out of the acid, and immediately afterwards into a dish of pure water. The utmost caution is necessary in performing this operation, as the powder at this stage is easily removed, and especially so in the washing operation, which is necessary to remove every trace of sulphuric acid. After washing, the plate is taken out of the water very carefully, and set aside to drain; it is finally dried either by artificial heat or in the air.

PREPARATION OF THE ENAMEL PLATES.

This is an interesting part of the process, and yet it is one which the photographer would gladly dispense with; it requires nicety in the operation, and entails considerable labor. Fortunately, however, enamelled plates are in the market of various sizes and shapes.

The plates themselves are made either of copper or gold; they resemble the silvered plates we formerly used in the daguerreotype process, from the fact that there is a fillet or ledge about one-sixteenth of an inch raised all round the plate, thus converting the plate into a dish. For photographic purposes we shall limit ourselves to copper. Begin your first operations with small plates, and as you advance towards perfection enlarge your plates. Cut out a piece of sheet copper one inch and a half long by one inch wide, and remove all oxide from its surface either by dilute nitric acid or by mechanical means, such as grinding with emery or a flat piece of iron or stone; then raise the ledge all round as just mentioned. In the

daguerreotype process we had two or three instruments by which such ledges are easily and uniformly made, without in any way destroying the evenness and smoothness of the plate.

We will suppose you want to make a *white enamel*. All enamels consist of two parts, the silicious or basis, and the coloring material; they are also distinguished as transparent and opaque. The white enamel, which is what we want, is opaque, and is formed, perhaps the most easily for beginners, by making a mixture of flint glass and calcine.

CALCINE.

Calcine is the double oxide of tin and lead, or as some denominate it, the stannate of lead. It is formed by fusing together at a low red heat an alloy of about 20 to 50 parts of tin with 100 parts of lead in an iron ladle or dish; the oxide as it forms on the surface of the melted alloy, has to be skimmed off to one side; and this operation is continued until the whole of the metal is oxidized. Take care not to raise the temperature too high; the lower the temperature the better, as long as oxidation is effected; the latter, too, must be as perfect as possible, that is, all metallic particles inclosed in the oxide must be picked out from the scum and mixed with the melted alloy. As soon as sufficient of this oxide has been obtained, it is allowed to cool, it is then pulverized or ground up in a mill, and afterwards levigated with water on a marble or glass slab to a homogeneous or pasty mass; it is then elutriated or washed, in order to remove all metallic particles, and the larger particles of oxide. The fine sediment is then collected and dried; this is the calcine.

WHITE ENAMEL.

Calcine, . . .	1 drachm.
Flint Glass, . . .	2 drachms.
Manganese, . . .	1 grain or more.

Pulverize the glass to an impalpable powder in an agate mortar (by no means in an iron mortar); also the black oxide of manganese; finally, mix the ingredients together, and grind them together in a mortar; after which the mixture is fused in a crucible, taking care to exclude all smoke and other impurities from getting into the

crucible. The melted mass is poured into clean water, and afterwards again pulverized, levigated, and fused.

ENAMEL PLATES.

Take some of the enamel and pulverize it, and, whilst wet, place it with a spatula upon the prepared copper-plate until the latter is uniformly covered. Absorb the moisture by blotting-paper, then dry the film of enamel powder, heat it gradually, and finally placing the copper-plate on a piece of fire-clay, introduce it into the furnace, and fuse the enamel. Watch the operation and withdraw the fire-brick as soon as vitrification has taken place. Let the plate cool gradually, and, if necessary, repeat the operation with another layer of enamel; finally grind the enamel surface with sand first and then with emery, and then submit once more to fusion, so as to give the polished surface a vitreous gloss. Plates prepared in this way are for the reception of the chromic collodion film, as soon as the latter has been exposed, and already contains the picture in some colored enamel. This thin film is caused to adhere to the white enamel by means of a solution of sugar as already described.

ENAMEL POWDER FOR THE CHROMIC COLLODION.

In the first place, a very fusible, transparent flux or glass is required to hold the colored oxides.

FLUX.

Silica,	10 parts.
Minium,	40 "
Borax (Calcined),	40 "

Pulverize these ingredients, mix them intimately, then fuse. Pour the fused mass into water, again pulverize and fuse. This is a very fusible flux or basis for melting with the coloring materials.

BLACK ENAMEL.

Flux,	2½ drachms.
Oxide of Copper,	16 grains.
Oxide of Cobalt,	24 "
Oxide of Iridium,	1 grain.
Sienna (earth),	8 grains.

These ingredients are thoroughly pulverized, intimately mixed, and fused. The operation is repeated; the black mass is

taken from the water after fusion for the last time, and is pulverized in an agate mortar to the finest powder possible by this means; it is then levigated on a large glass slab into the finest paste, until it is as homogeneous as a layer of so much Indian or Chinese ink. Finally it is washed and dried. This dry, impalpable black powder forms the developing powder (it must be perfectly dry and perfectly impalpable).

VITRIFICATION OF THE PICTURE.

To fuse the prepared film is, perhaps, the shortest part of the whole process, and the easiest, and, in fine, the most successful, supposing, of course, that all the preparatory work is correct. An assayer's furnace, that is, a cupel-furnace, is required for this operation. Such furnaces can be obtained of Wilson, Hood & Co., Philadelphia; of Bullock & Crenshaw, Philadelphia; of J. F. Lubme & Co., New York, and elsewhere.

The fire is lighted with charcoal, and then heaped up with mixed charcoal and coke of the size of horse-chestnuts, until the fuel is three or four inches above the muffle. By this means the muffle becomes red-hot. The prepared plates, previously well dried, are placed on pieces of baked fire-clay in the front of the muffle, in order to be heated gradually; finally they are pushed back to the hottest part, where the picture in a few minutes fuses. During this part of the process the mouth of the muffle is closed with two or three pieces of charcoal, leaving space enough between to watch the operation. As soon as vitrification has taken place, the piece of fire-clay with the plate upon it is drawn again to the front, so as to cool gradually, and, when sufficiently cool, it is placed upon the plate of an iron stove to cool still more, and finally it is set aside to cool completely.

These enamel pictures are the richest specimens of photography, when properly managed.

In this article I merely give a sketch of the whole proceeding, in order to draw the attention of photographers to this interesting branch, and to those who feel desirous of making it their special study, I

would recommend the perusal of a small pamphlet on the subject, by Lucy Fassarien, Paris, as also of the excellent work of Geymet & Alker, entitled "*Emaux Photographiques*," both of which are practical treatises. Geymet & Alker supply all the materials, enamels, furnaces, muffles, a peculiar sort of photographic paper for preparing the positives, and, in fine, give instruction in this art, and guarantee success. We know, personally, that this branch is successful.

THE "BERLIN PROCESS."

"*Was ist das?*" inquires our friend, Dr. Vogel, in his excellent journal, the *Photo. Mittheilungen* for March, and "What is that?" many others will inquire, perhaps, so we propose to tell them now. One of our advertising firms for four or five years back, has been importing *carte* pictures from Berlin of a very fine quality, which were sold to the trade at a low figure, in order that they might be studied and imitated in this country. The effect has been very apparent. The softness, delicacy, beautiful half-tones, color, and vigor of the Berlin cartes excited the cupidity of our photographers, and they have tried in many ways to attain the same excellence in their work. How the Berlin artists proceeded was not known at first, so the Yankee privilege of *guessing* was brought in to do service. Among other plans, Mr. Frank Rowell bethought him that if the negative was made on ground-glass, probably the coveted effects could be secured. He carried his thought into practice, succeeded very well, and continued to reap the advantages of his thoughtfulness quietly and alone for a couple of years, when his secret was found out, and in a few weeks it was offered to the trade for a price, under the name of the "Berlin Process." Several impatient ones, who take this Journal, but who could not wait until it could find out all about the process and explain it, purchased, one gentleman having paid \$250 for the sole right of a large city. He probably repents it now, but it is too late to help him.

A few days ago we called upon Mr. Rowell, and he generously gave us the details of his process with permission to publish, and made some negatives in our presence. The main thing is in making the negative on glass ground on one side, the film being on the smooth side; and thus the prints are really made under or through ground-glass. The ground surface being a part of the negative, of course no "medium is interposed between the negative and the print," and no patent is "infringed." The negative should be soft, thin, and full of detail, but not intense. A negative made on plain glass that would require intensifying would *not* require it if made on the ground-glass. Otherwise, the manipulations are as usual. Mr. Rowell albumenizes his plates, and, as streaks of the albumen run over on the ground side, they must be removed. This is done immediately after fixing and washing while the plate is still wet, by rubbing briskly with a large cork dipped in emery, until the stains are removed. In washing have a care that the emery does not get over on the film side. The coarser the glass used, the more will the effect of stippling on the print be produced, and the choice of coarse or fine glass should be made according to the subject. No doubt all stockdealers will furnish glass for the purpose. It should generally be finely ground. For large busts and heads it may be coarser. If it is desirable to *increase* the stippled effect, shade the negative from all side light by holding a bottomless box over it, thus forcing all light that strikes it to come from *above*. When the subject is much freckled or of very coarse complexion, Mr. Rowell retouches the negative slightly. Some pictures he gave us are remarkably fine, and equal to the genuine Berlin. Mr. Rowell is very skilful in lighting his subjects, and to that fact also much of the beauty of his work is due.

NEVER feel too wise to learn, and never refuse to communicate when you are applied to for information. What can you possibly gain by withholding from a neighbor in trouble?

ONE HUNDRED DAYS IN A FOG.

BY ELBERT ANDERSON.

[WHAT follows under this title for the next few months will, no doubt, amuse, entertain, and instruct our readers, and we therefore give it place. Mr. Anderson is a gentleman of undoubted ability, and, like many of his class, is very frequently applied to by those less skilled in the art than he, for information. Of course he cannot—no one can, whose time is their living—sit down and answer all such, and what he contributes to our pages he hopes to make answer for all. He has, doubtless, spent much labor in making his extracts, and it is astounding how "doctors will disagree," but we think the *moral* of the whole thing is, if we may be permitted to guess in the beginning, that if photographers have not the brains that will enable them to think, no matter how explicit their instructions, or how much "doctors disagree," either they *cannot* make good work, or, worse still, they cannot know good work from bad when they see it. But now for the "fog." It begins with that class of letters which daily blesses our sanctum.]—ED.

MILWAUKEE, Wis., March 10th, 1870.

MR. ELBERT ANDERSON,

Operator, Kurtz's Gallery, 872 Broadway, N. Y.

DEAR SIR: Flattering myself that I am something of an artist, I have recently decided to combine photography with my profession. I have been now established several months, but I am sensible that my skill as a photographer rather detracts from my hitherto acknowledged talent as an artist. I have tried at least half a dozen operators, but I do not find that they help me out much, probably because they do not know anything as a general thing. In despair I visited Kurtz's gallery, and, after inspecting the work there, which I found of the very first order (in fact, just what mine would be if the operator only knew more of his part), I almost began to wish I had never meddled with photography, but at the same time it made me doubly anxious to see you and learn how you manage your chemicals. You appear to have such a press of business, however, that I found a personal interview out of the question. I have, therefore, taken this method of communicating with you, trusting that you will generously enlighten me, either by suggestions of your own or by recommending to me works on photography, whose

authors are perfectly reliable. I find so much contradiction and variance in formulæ, as far as I have read, that I am quite at sea. Hoping you will aid me out of such "a sea of troubles,"

I am, my dear Sir, very respectfully yours,
A. B. MARSHALL.

P. S.—I send with this a few negatives for your inspection. Please tell me what the trouble is, and why I cannot produce pictures that may at least be called a very poor imitation of Kurtz.

A. B. M.

NEW YORK, March 15th, 1870.

MR. A. B. MARSHALL.

DEAR SIR: Your very flattering letter of 1st instant and package of negatives are received. You ask me to tell you what the trouble is? The trouble is simply this: they are full of streaks and the shadows are excessively foggy; they are, moreover, greatly underexposed and hopelessly intensified, but, with the trifling exception of being perfectly lined with pin-holes, they do you credit. It is, however, a great pity that your operator, in focussing, should have got your sitters in such very ungainly positions.

I showed your "Rembrandts" to Mr. Kurtz, and I can assure you that he must have been greatly pleased with them, for he laughed heartily; he is far too generous to envy you in this style of work.

I shall at all times be most happy to afford you any information which my limited experience has taught me.

You request me to recommend to you some books on photography, whose authors are reliable. I will do better than this, my dear sir; I will do much better, for I will forward you some extracts from the works of the very highest authority, when, perhaps, you may judge for yourself which to select. I entitle my little manuscript "Curiosities of Photographic Literature; or, One Hundred Days in a Fog," and, when you have waded through this wilderness of contradictions, which may afford you considerable amusement and astonishment (for information it cannot), you may ask me how I can conscientiously recommend any book or books for you to study.

I would, however, advise you to subscribe to the *Philadelphia Photographer* (which is the official organ of the Photographic Association of the United States), the editor of which I am quite sure will at all times give you the information you appear to need so sadly.

I am, my dear sir, with great respect,

Very sincerely yours,

ELBERT ANDERSON,

W. Kurtz's Gallery, 872 Broadway, N. Y.

CURIOSITIES OF PHOTOGRAPHIC LITERATURE; OR, ONE HUNDRED DAYS IN A FOG.

BY ELBERT ANDERSON,

Operator, W. Kurtz's Gallery.

First day.—Do not move the plate after immersion into the bath, otherwise streaks will inevitably be formed. (From *Le Moniteur de la Photographie*.)

Second day.—Immerse the plate into the bath, and continue to agitate it by moving it about in order to avoid streaks. (*Silver Sunbeam*, 7th edition, page 11.)

Third day.—Many adopt the plan of leaving the plate in the bath for five minutes, and then taking it out without any movement. (*Hardwick's Chemistry*, 7th edition, page 417.)

Fourth day.—After the plate is immersed move it upward, downward, and sidewise, to prevent streaks. (*Devine's Practice*, page 27.)

Fifth day.—Should your bath streak your plates, add a little nitric acid thereto. (E. L. Wilson, *Mosaics*, 1867, page 141.)

Sixth day.—Nitric acid is of all things the most objectionable in a new bath. (Aliquis, *Mosaics*, 1869, page 115.)

Seventh day.—Never use acetic acid in your bath; use nitric. (E. L. Wilson, *Mosaics*, 1870, page 143.)

Eighth day.—This solution (the nitrate bath) is the same as for positives, acetic acid, however, being used instead of nitric. (*Hardwick's Chemistry*, 7th edition, page 399.)

Ninth day.—If you prefer your bath acid add a few drops of nitric acid, C. P. (E. L. Wilson, *Mosaics*, 1870, page 105.)

Tenth day.—It is preferable to add glacial acetic acid to the bath instead of nitric. (*Towler's Almanac*, 1865.)

Eleventh day.—Some photographers use acetic acid in the bath, but this must by no means be done to make the bath acid. (George H. Fennemore, *Mosaics*, 1870, page 25.)

Twelfth day.—The bath, if neutral, will require a few drops of acetic acid; add, therefore, 10 or 12 drops of nitric acid. (*Towler's Almanac*, 1865.)

Thirteenth day.—Chemically-pure nitric acid must be added to the bath. (George H. Fennemore, *Mosaics*, 1870, page 25.)

Fourteenth day.—Even when first made, no acid should be added to the bath. (Aliquis, *Mosaics*, 1869, page 115.)

Fifteenth day.—Remember, however, the less nitric acid you use the more sensitive your bath will be. (*Lea's Manual of Photography*, page 26.)

Sixteenth day.—A small proportion of nitric acid in the bath, on the other hand, materially increases its sensitiveness. (*Hardwich's Chemistry*, 7th edition, page 278.)

Seventeenth day.—The nearer the bath to neutrality the more sensitive it is. (*Handbook of Photography*, page 216.)

Eighteenth day.—An impression is not uncommonly entertained, that any acid in the bath will greatly diminish the sensitiveness. The writer does not find this to be the case. (*Hardwich's Chemistry*, 7th edition, page 276.)

Nineteenth day.—A strongly-acid bath gives harder negatives than a neutral one. (Aliquis, *Mosaics*, 1869, page 118.)

Twentieth day.—A very acid bath never yields an intense negative. (*Mosaics*, page 28.)

Twenty-first day.—Excess of contrast is caused by too much acid in the bath. (*Silver Sunbeam*, page 332.)

Twenty-second day.—Want of intensity is caused from acidity of the silver solution. (*Waldack's Treatise*, page 113.)

Twenty-third day.—The object of acid in the bath is to prevent the reduction of the silver solution that has not been exposed. (Towler, *Philadelphia Photographer*, page 330.)

Twenty-fourth day.—If the picture is foggy drop in a little more acid. The use of acid is to dissolve organic matter. (*Devine's Practice*, page 33.)

Twenty-fifth day.—Silver bath: water, 64 ounces; nitrate of silver, $7\frac{1}{2}$ (!) ounces. Acidulate with 2 drachms (!) of pure glacial acetic acid. (*Towler's Almanac*, 1866.)

(To be continued.)

AN EXPLANATION.

NEW YORK, March 17th, 1870.

EDWARD L. WILSON,

Editor Philadelphia Photographer.

IN your Journal for this month I find myself "pitched into" by an "old photographer," seconded by your able correspondent, G. Wharton Simpson, Esq., and also, in the *British Journal of Photography*, for the following, which, by the way, I never uttered: "It has become a generally understood fact that the Old World usually claim as their own whatever happens to be produced in the New."

Now as to what I did say.

Mr. Chapman claimed that Mr. England had rediscovered his plan of boiling the bath to purify it; to sustain which, and to fix its date of publication by him, he quoted authorities, etc., all of which I reported in the January number of the *Philadelphia Photographer*.

Mr. Chapman was not pleased to have Mr. England "steal his thunder," and said so.

I stated subsequently in a jocular way that it was not the first time John Bull had claimed that which did not belong to him, and gave one instance as a proof of my position, as follows:

In the latter part of 1859, I published in the *American Journal of Photography*, with a drawing, a full description of an automatic washing trough; it was copied, drawing and all, by the *British Journal*, Oct. 15th, 1860; in 1863 one J. T. Bull invented it all over again, and it received from said *British Journal* a first class notice as to value, etc., August 1st, 1863. When invented by me four years prior, said Journal said it would not work; that the foot of the syphon needed a "frame-balance valve," etc., etc. October 30th, 1863, G. Wharton Simpson gave friend Bull's invention a "puff" in the *News*.

In your Journal, August, 1867, I with other matters again called attention to my washing trough here, but Bull's when you go "tother side." I have no excuse for being so particular as to dates; except that I fear "an old photographer," for he is quite a dangerous man, inasmuch as he does

not come out into the broad light of day, that all may see him, but hides himself behind anybody's title or name. I have stated the spirit of my remarks, if not the exact words, and have given my reason for being so disrespectful to my ancestor.

Now a word as to boiling the bath. Mr. Hugh O'Neil, partner in the well-known house of C. D. Fredericks & Co., photographers of this city, assured me that he has always boiled his baths since 1855. I first made his acquaintance in 1858, and I know that he so operated at that time.

CHARLES WAGER HULL.

THE WHITE MOUNTAINS IN WINTER.

AN explanation is probably due to correspondents of our unusual delay, during the past month, in answering their communications. We find it necessary once in awhile, to "flee to the mountains," or somewhere else, to rest and recuperate awhile, and our last trip was extended to some ten or twelve days,—and three hours,—the latter being caused by Mr. Shaw, the "waste" man. Our jaunt was to the White Mountains, and was made with Thomas Hill, Esq., of Boston, the eminent landscape painter, whose great painting of the Yosemite Valley* will render him immortal fame, and our esteemed friend. Mr. B. W. Kilburn, of the well-known stereoscopic publishing firm of Kilburn Bros., Littleton, N. H. Our space this month will not allow us to render an account of ourselves during that enjoyable ten days, and we will spare our readers the infliction until our next. We had a grand time, however, in the sleigh, on snow-shoes, and clambering over, on and among the glorious White Hills, as you shall know, and are returned in good time for your service. We saw much that Mr. Kilburn cannot master with his camera, Mr. Hill paint with his masterly brush, or we describe with our pen; but we all stored away material for future use. Mr. Hill we found to be one of the few artists willing to accord to photography the place it deserves among the arts,

and also willing to acknowledge it as a great helper to those of his profession. This fact made him a congenial companion. He is just finishing an admirable picture of the scene of the great Willey Slide, that occurred in the Crawford Notch in 1825, and destroyed the whole Willey family and much property. It is grand in conception, drawing, and color, and we shall soon see it finished; after which more of it and the talented artist producing it.

NEW PATENTS.

THE production of photographs by mechanical means, seems to suit the American taste better than any other, and hence, we have quite a long list of patents to announce, some of which we shall probably describe more fully hereafter. What we have to record now, are the following:

By Mr. F. Peabody, a camera-screen, which is a contrivance for the making and closing of the exposure of the plate, by means of a screen in the body of the camera-box, thus making it invisible and preventing the sitter from knowing when the exposure is made.

By Alexander Beckers, New York, several improvements in revolving stereoscopes.

By Peter Murphy, a new porcelain printing-frame.

By A. Krus, a magic lantern.

By H. M. Heddon, for chocolate-tinted ferrotype plates.

By I. H. Stoddard, an improvement in cameras, by which the ground-glass is pushed back by means of springs, etc., when the holder is inserted to take its place.

By J. A. Anderson, a method of mounting backgrounds of different patterns on one frame, by which several backgrounds may be used and take the space of but one.

By Isaac Rehn, for improvement in printing photolithographs; and,

By D. H. Cross, for a new photographic dipper.

We regret that we have not space to give more details concerning them now, but this will show our readers what is going on.

* Chromo-lithographed by L. Prang & Co., Boston.

PHOTOGRAPHIC SOCIETY OF PHILADELPHIA.

THE regular monthly meeting was held on Wednesday evening, March 2d, 1870. The President, Mr. Frederic Graff, in the chair. The minutes of the last meeting were read and approved.

A large number of glass positives were exhibited in the magic lantern by the Secretary, from negatives made by Messrs. Davids, Moran, and Browne.

Mr. John Moran made some remarks on the subject of photo-enamels and the process of M. Lafon de Camarsac. While admitting M. de Camarsac's claim to excellence in general effects, sweetness of color, and preservation of the half tones of his pictures, Mr. Moran urged the point, that these desirable qualities were due quite as much to Mr. Camarsac's skill in retouching as to the chemical means employed in producing them. Upon close examination, Mr. Moran found, in a majority of cases, the deepest shadows on the drapery, hair, velvet, etc., etc., and high lights generally, had all been put on by the brush.

As the result of a chemical process they are not equal to their reputation, although as pictures their merits are undeniable.

Mr. Moran exhibited a number of picturesque transparencies for the lantern, toned by the various salts of gold, palladium, platinum, and potash. Of the different tones produced, that due to the use of the permanganate of potash was considered the most pleasing.

Mr. Moran, in connection with the subject of transparencies, adverted to the erroneous idea generally prevalent, as to the proper strength of the negative to be used in making glass positives. In his opinion, a thin negative produced always a flat positive; whereas, a negative of good strength and density gave a positive which, when thrown upon the screen, was characterized by boldness, vigor, and relief, the depth of shadow giving proper value to the brilliancy of the lights.

On motion, adjourned.

JOHN C. BROWNE,

Recording Secretary.

FERROTYPERS' ASSOCIATION OF PHILADELPHIA.

THE regular monthly meeting of the Ferrotypers' Association of Philadelphia was held at C. M. Gilbert's gallery, on Tuesday evening, March 1st, 1870.

The President, Mr. A. K. P. Trask, in the chair.

After roll call, the minutes of last meeting were read and adopted.

The resolution, laid over from the meeting in January last, viz., "That a committee be appointed to examine into the manner of conducting business, and style of sky-lights used at the different galleries in the city," was considered and adopted, and Messrs. A. K. P. Trask, D. Lothrop, and C. Naylor were appointed to constitute that committee.

On motion, it was resolved that the Secretary purchase an album for the use of the Society, in which to keep the best ferro-types brought into the meetings at different times.

On motion of Mr. D. Lothrop, it was resolved that each member bring to the next meeting a group picture of two or more persons, for examination and opinion of the Society.

On motion of Mr. A. K. P. Trask, it was resolved that the Society purchase a gold medal, have it properly engraved, and of a suitable size to wear on a watch-chain as a charm; to be given, at the expiration of the year, to the member who shall in the meantime produce and bring into the meetings the best ferro-types the greatest number of times.

On motion, it was resolved that the President attend to the getting up of the medal.

During the evening, several fine album-sized ferro-types large heads were exhibited, made by Messrs. E. F. Warrington and A. K. P. Trask, on the chocolate-tinted plates.

Adjourned.

The next meeting will be held at Mr. Thomas Brooks's gallery, 630 Arch Street, on Tuesday evening, April 5th, 1870.

D. LOTHROP,

Secretary.

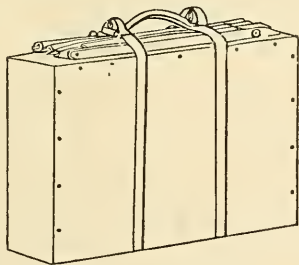
THE GERMAN PHOTOGRAPHIC SOCIETY OF NEW YORK.

THE German Photographic Society in New York, which is a branch of the Central Photographic Society in Berlin, hold their meetings every Thursday evening, at 28 Stanton Street, New York.

This association, which numbers now thirty-six members, is progressing and prospering in every respect. They have a very substantial library, and specimens of photographs from all quarters, which they are always ready to improve by new works, for the benefit and the accommodation of their members,

Last week, the second anniversary of the association was held at the meeting-rooms. It was well attended, and gave full satisfaction to every visitor. But the most interesting and gratifying of all was an exhibition of photographic works of all branches; stereoscopes; landscapes, of larger size; portrait heads and combination pictures; carbon prints, heliographs, and light prints (Lichtdruck von Ohm & Grossmann), and a very fine collection of photographs, from the early days of photography up to the latest time, so showing the different gradations of improvement from the childhood of the art up to the so much admired Rembrandts.

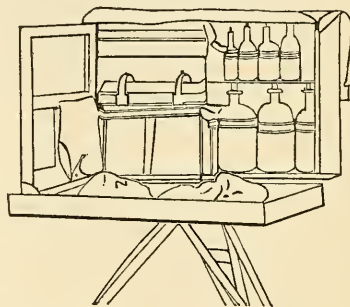
There were also several stereoscopic cameras, and larger ones, etc., exhibited. I must also mention the self-constructed dark-tent of Mr. O. Lewin. This very ingenious contrivance consists of a square black walnut box, 24 inches long, 15 inches high,



and 6 inches wide. It is made in two parts, and shuts up like a small valise.

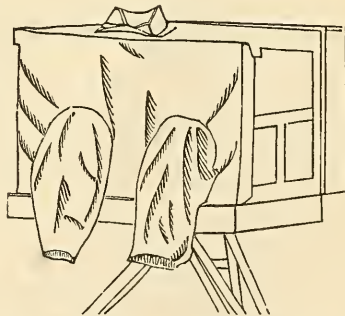
The top part or cover is 4 inches wide, so as to provide ample room for bottles for negatives, baths, collodion, developer, etc.

The bottom part is 2 inches wide, and contains the two side-pieces, which consist of a wooden sash with orange-yellow stained glass, the front cloth, and a tray for water. These two parts are kept together by four bracket-hinges, which keep the top from falling over when fastening the side-pieces. The sides rest on slats, glued and screwed on each side of the two parts, and kept firm by small hooks and screw-eyes.



The covering of the box consists of waterproof cloth, lined with orange-colored muslin, which is also in two pieces; the top piece is nailed inside of the cover of the box; it is wide enough to allow about 1 or 1½ inches of the cloth to lap over the side of the box.

The front of the cloth is tacked on a rod, which keeps the sides of the box in their proper places, and stretches the cloth at the same time; it is fastened by a hook and screw on each side; in the centre of the top cloth is a square hole, about 4½ by 2½ inches, in which is a stereoscope-hood-shaped box, with a piece of stained glass in it to look through when operating.



The front cloth is nailed inside the front of the box, also leaving 1 or 2 inches to lap over the sides; it has two sleeves long

enough to allow the hands to reach any portion of the box; this front cloth is buttoned on the top and sides; the whole rests on a tripod, fastened at the bottom of the box by means of a screw, same as a camera.

This dark-room box gives plenty of room to work stereoscopes and 4-4 plates, is durable, free from dust, and not very heavy; it weighs with contents about 20 pounds.

Inclosed I send you some photographs of the same for the better understanding.

Mr. Lewin presented to the Association some fine views of Niagara Falls, Central Park, and New York Navy Yard, which were accepted with pleasure and the thanks of the Association.

Mr. Krueger produced some photographs which had red patches in the less dense parts, as background draperies, etc., like those of a bad albumen paper. He said that they originated from fuming with a bad sample of ammonia, for as soon as he tried some other ammonia they ceased to occur.

At a recent meeting the following gentlemen were elected officers for the ensuing year: President, Henry Merz; Vice-President, Otto Lewin; Secretary, Charles Kutscher; Treasurer, George Eichler; Librarian, Otto Loehr.

As often as I find an opportunity to communicate anything of interest, I will let you hear of us again.

CHARLES KUTSCHER,
Secretary.

28 Stanton Street.

NEW ENGLAND PHOTOGRAPHIC SOCIETY.

THE regular monthly meeting of the Society was held at Mr. Black's studio, No. 173 Washington Street, March 1st, 1870.

The meeting was called to order by President Loomis.

Records of the last meeting were read, amended, and approved.

The committee appointed at our December meeting to procure the celebrated photograph published by Messrs. Robinson & Cherrill, of England, called "Kittewakes,"

reported that they had procured the picture through Mr. E. L. Wilson, of Philadelphia, and it was now ready for the inspection of the Society.

The election of officers for the ensuing year then followed.

Messrs. H. William Tupper, E. T. Smith, and C. H. Danforth were appointed as tellers, and reported the following officers elected: President, Mr. E. L. Allen; Vice-President, Mr. J. W. Black; Secretary, Mr. H. William Tupper; Treasurer, Mr. A. S. Southworth; Executive Committee, G. H. Loomis, E. L. Allen, and J. W. Black.

After the election of officers, Mr. Loomis, the retiring President, in some valedictory remarks, reviewed the year's labor, and congratulated the fraternity on their auspicious beginning and promising future. He referred to the important results achieved by personal and associated effort, and hoped that every member would feel an individual interest in elevating the art. He regretted that ill health had prevented his presence at some of the meetings, but assured the members that his interest in the success of the association was unabated. He predicted a fine display at the Cleveland exhibition, in June next, and hoped that Boston would be well represented.

Mr. Southworth then offered the following resolution: That the thanks of this Association be tendered to the past officers thereof for the very able and faithful performance of their respective duties as officers of this Association during the past year; and it was unanimously adopted.

The following gentlemen were elected members: Messrs. D. C. Osborn, Assabet, Mass.; E. W. Johnson, Nashua, N. H.; E. Day, Waltham, Mass.; T. N. Phillips, West Lynn, Mass.; W. T. Bowers, Lynn, Mass.; and D. S. Mitchell, Boston, Mass.

Mr. A. S. Southworth said he wished to call the attention of the Association to a personal matter which he hoped they would excuse.

He had seen it stated once or twice in the *Photographer*, that the case, Southworth & Wing v. Schoonmaker, would probably be

tried the present month. Also, that the plaintiff had tried to postpone the case.*

The latter statement was not true, as Mr. Wing and himself were very anxious that the case should be tried at the very earliest time possible.

When it would be tried, they could not tell. They thought they should know as soon as any one, and had written to their lawyer in Washington, and asked him the question. He has just answered, that "he could not tell, as he did not know. The case is number 259 on the docket of the United States Supreme Court. Case 59 is now being tried."

The Secretary stated that, since the last meeting, he had received a communication and a fine lot of pictures from the St. Louis Photographic Society for this Association. Unfortunately they had lain in the Boston post office for nearly two months, his post office being at East Cambridge, and he, not expecting mail matter to be sent to him thus, had neglected to inquire there.

The communication was then read, and, on motion, it was placed on file; and the thanks of the Association extended to the St. Louis Photographic Association for their valuable contribution to our album, and for their pleasant and friendly letter.

A committee of three was appointed by the Chair to collect photographs, to be sent to the St. Louis Society.

Messrs. W. T. Bowers, of Lynn; E. T. Smith and T. R. Burnham, of Boston; were appointed that committee.

'There being so few pictures presented for competition, it was decided to defer the vote on them till the next meeting.

Adjourned.

FREDERICK C. LOW,
Secretary.

* Mr. Southworth is in error here. We stated that we *understood* that the case would probably come up during March, and so we did, from Mr. Schoonmaker's counsel. He is liable to err, however. Mr. Southworth has never seen it stated in this Journal "that the plaintiff had tried to postpone the case," for no such assertion has been made herein, and we have no doubt it will be quite as great relief to the plaintiff as to the photographers, to have the case *decided* one way or the other.—Ed.

THE EXHIBITION.

WE desire to keep our readers *alive* on this subject, and it is delightful to know that many of them *are* alive on it. We have had letters from hundreds who declare they mean to go "*if alive*," and although the Boston exhibition was overwhelming, we anticipate that the one in Cleveland will eclipse it entirely. The efficient local Secretary, Mr. J. F. Ryder, is doing his utmost, and will announce his arrangements fully in our next issue. The railroad companies in all directions are being appealed to, to reduce their fares, and several have assented. Effort is being made to secure this favor for all, North, South, East, and West. Let us all prepare to go, then, who can and have examples of our work there. Space will be ample, light fine, and our friend, Mr. Ryder, will gladly attend to all. Let us join hands and interests there in great numbers, and make our influence *felt*. There is no art that has grown as rapidly as photography, and there is none as little respected, as little protected, and as little elevated as it. This must not be so. We want to be incorporated; we want a copyright law that gives a photographer a right to enjoy the full privileges of his labor and skill without its being pillaged by engravers, lithographers, and others. We want our profession and its usefulness *acknowledged* and *felt*, and better prices for our work. We will get it too if you will rise, join hands, drop your malice and jealousy, meet together and devise and discuss the means. *Come*. It will *pay* you for any sacrifice, and we warrant you shall go home *cheered*, *STRENGTHENED*, *BETTERED*, and *wiser*. *All* photographers, whether members of the Association or not, are welcome to exhibit and be present. Join the Association, though, if you can afford it, *now*.

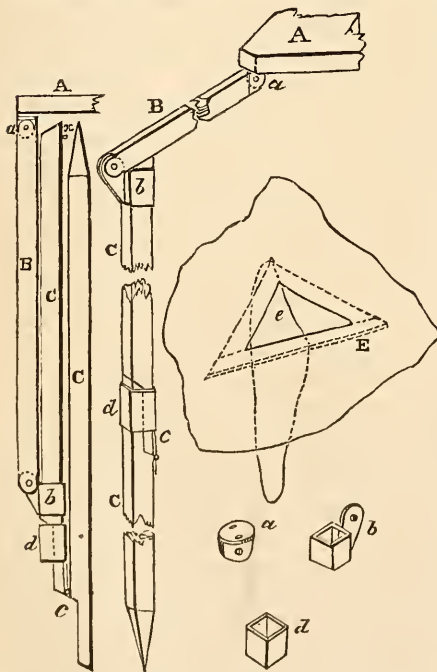
Four dollars will make a photographer a member and prepay his dues from June last for a year, and two dollars will do the same for an employee. Send to us, and certificates are waiting for you. Bring all your bad and curious negatives with you. Examples of failures, and all such, will add interest to the discussions. Let all the *novelties* be there, and above all, be there yourself.

Articles for exhibition will probably not be required to be in Cleveland before May 25th, any way, but be getting ready and send the best you can produce. Arrange with your express companies to return your packages free, as no *general* arrangements can be made with them. *The West* will not forget to help Cleveland. Full list of the railroads granting commutation tickets and local Secretary's instructions in our next, which we shall endeavor to issue earlier than usual.

HINTS FOR A NEW DARK-TENT.

BY A. E. LE MERLE.

Now that the season for outdoor work will soon be here, and our fellow-craftsmen wending their way fieldwards, perhaps a description of a new dark-tent may not be amiss. Although the dark-box for field work has almost entirely superseded the tent, there are a few who still adhere to the latter, and to such these few hints are addressed.



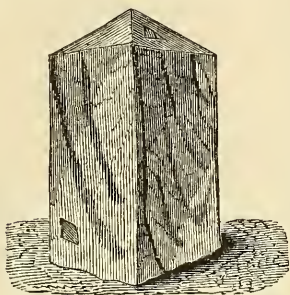
The reference letters refer to like parts in all the figures. A is a flat, triangular piece

of wood, having attached to its under side at each angle by a metallic or even wooden leg *a* (or an ordinary hinge may be substituted), an arm *B* extending outwards and downwards at any convenient angle. At the outer end of each arm is a peculiar hinge *b*, so constructed as to allow the upper half of the leg *C*, which it embraces, to slide freely up and down through it. To prevent the leg from entirely coming out it is provided near the top with a small pin or stop *x*. Each leg, at about the centre, is cut half-way through diagonally from opposite sides, and the inner ends of the cuts joined in the direction of its length, through the centre, as shown at *c*. The two halves thus made are joined on the inside by an ordinary hinge, and when extended are made rigid by a slide *d*, after the manner of an old-fashioned parasol-handle. The legs are tapered at the bottom and shod with metal.

In order to pitch the tent the operator inserts his hand inside the cover, unfolds one of the legs, locks it with the slide *d*, and thrusts it a short distance into the ground. The next leg is operated in the same manner, carrying it as far as the covering will permit, and when these two are fixed they will define the position for the third. The top, owing to the bevel at the top of the legs, will naturally fall into its proper position. The folding is performed by a reverse operation, with the tent lying on its side. The manner in which the legs fold will at once be understood by an inspection of the figures. The framework is covered in the usual manner with black and yellow calico. All the metallic parts can be easily made of stout sheet-metal.

It now remains to describe the means of ventilation. In one side of the top a triangular opening is cut. This opening is closed by a valve composed of several thicknesses of calico, slightly larger than the opening, and of the same shape, stitched to and between the layers of the cover at the lower edge. At the upper angle of this valve are attached two cords; one passing upwards between the cloth layers for a short distance and thence downwards into the interior of the tent through an eyelet-hole, the other in a reverse direction, over the top of the valve, between the layers of cover and into

the interior in the same manner. It is evident that by pulling one cord the ventilator will be opened, and, from its shape, as readily closed by pulling the other. To any one who has worked in the old style tent in July or August, the advantage of the above will be apparent. If necessary, another ventilator, of the same pattern, may be placed in one of the sides near the bottom, which will also give the operator white light when he needs it without the necessity of going outside. The cut below represents the tent set up for use.



A great advantage of a tent constructed on this plan is roominess when open, combined with compactness when folded. One with sides six feet wide and six feet high, will fold into a bundle about eight or nine inches in diameter by a little over three feet in length. I hope that I have made the above clearly understood, and that some one may think it worth while to try it (any one with a moderate share of mechanical skill and leisure can easily construct one for himself), and give the result of his experience and improvements to the fraternity through the pages of the *Photographer*.

SOMETHING ABOUT WORDS.

BY GEORGE B. AYRES,

Author of "How to Paint Photographs," &c.

"READ the literature of your profession," but (it may be well to add) endeavor to have a "literature" in all respects *worthy* of being "read" and studied. Is this condition of things to be attained by the adoption of a questionable phraseology and the constant use of art-terms manifestly inappropriate and improper? That is what I propose herewith to consider.

The technical language of our profession is brief indeed. The philosophical terms appertaining to light and the camera; the names of chemical substances used, together with their properties, combinations, and results; and a few words which escape to us from the realm of legitimate art, can scarcely be considered, in a true sense, as belonging to *photography*; most of them seeming to belong to an "ancient" language when compared to our newly discovered art. Why, therefore, should not the limited demand for *new* terms beget care in their selection or manufacture?

We presume that the most important characteristic of any word used, coined, or imported, *ought* to be its susceptibility of being understood. Nor is it unjust to the majority of readers to assume that *unscientific* language is the most acceptable; that our own vernacular with its one hundred and fourteen thousand words is always to be preferred; and much credit is due Mr. David Duncan for his recent chapter Anglicizing the chemical nomenclature of the dark-room.

Above all, save us from that disposition which aims at a magnificent mysticism by the application of high-sounding words, to "split the ears of the groundlings" with incomprehensible names of quite comprehensible things. As Professor Towler intimated in his Boston address, this is nothing else than "photographic quackery!" It is to be regretted that our fraternity is not wanting in those, and occasionally among the so-called "first class" men, who cannot refrain from such charlatanism; and who, by means of ridiculously-worded advertisements and grotesque names for pictures, aim to gull the public and make money.

This debasement, when practised among the eminent representatives of our art, will, of course, be followed by the less informed brethren; and in such manner errors and absurdities will creep in, taking the place of better, and proper, words and phrases.

Foremost among the objectionables now current, I will instance the word *GENRE*. This importation from the French exceeds almost everything else in misapprehension. The word itself is a common one, signifying *genus, kind, sort, gender, species*; and of such

gener-al application that its use for a *particular* thing only creates a misnomer.

A few examples of its legitimate use may prove its misappropriation as a photographic adjective: *Le genre humain* (human kind, mankind), *Le genre sublime* (the sublime manner or style), *Un genre de vie* (a course or way of life), *Le genre d'animal* (the genus or species of animal). Suppose, therefore, we give it a parallel adoption, *Le genre de la photographie*, what have we gained? Only a poor phrase which might possibly cause the ignorant to wonder at something they do not understand; and if *this* be the grand object, why not complete the mysticism by *spelling* it as pronounced, *Zhong-r-r!*

Genre, one of the oldest terms of art, especially of painting, is used to designate that class of pictures whose subjects cannot be included in any of the specific departments—such as historical, portrait, landscape, marine, animal, fruit, flower, &c. It is more commonly applied to scenes of everyday life, whether grave or comic, anecdotal subjects, and national character as revealed by domestic manners.

Although it would seem to refer mostly to vulgar life, a genre painter is not necessarily a painter of low subjects. The Dutch are the most conspicuous in *genre*, and among the English, Hogarth and Wilkie are familiar names. In America, Eastman Johnson is very prominent.

Now does it follow from these facts that the word *genre* is, in any sense whatever, applicable to photography? The old story says that, when Adam ran short of names, he called "the rest of mankind" SMITH. It is plain that "Smith" is the *genre* word, designating the family; what is the difference then between a Smith-man and a genre-photograph, in the matter of specification? No difference; because it remains to say *which* "Smith" the man is, and *what* is the *name* or *title* of the photograph.

If a photographer would call in a lot of ragged bootblacks and pose them in characteristic attitudes expressing an idea; or with a few children and proper accessories composed something like a sewing-bee or a tea-party, without reference, however, to obtaining any of the faces as *portraits*—then he might class the pictures as *GENRE*; al-

though it would yet remain to say *what scene* or *idea* the picture represented. Apropos of this, Mr. Notman's "Discussing a Sketch," in the *Photographer* of April, 1868, is a genre photograph truly; but he supposes we all know *that!* and gives it a title. Mr. Griswold's beautiful specimen in the February *Photographer* should be named "Blowing Soap-bubbles;" it is "a genre photograph," *of course!*

But, behold! a photographer displays at his door or hangs on his wall A PORTRAIT of perhaps the most conspicuous or distinguished citizen of his town, and labels it "Genre Photograph."* Would it be impertinent to ask such a one whether he was in his right senses; or, if so, that he should vouchsafe to tell us *how* a French word, applicable to everything else than anything in particular, can be tacked to a positive and unmistakable *portrait* of a distinct and specific individual! Then, of course, a head of Caesar, or Napoleon, or Washington, or Lincoln, is a "*genre*" picture! Eh?

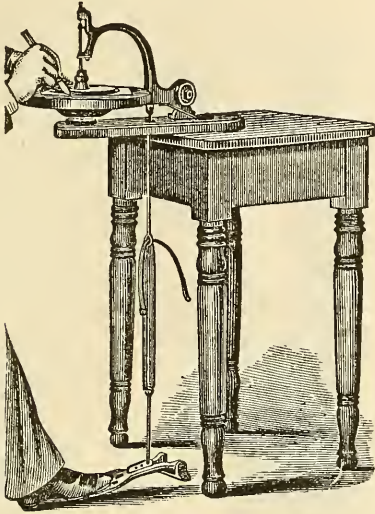
But, excuse me, Mr. Editor, I have already exceeded my space for this time. I hope I have said enough to induce the fraternity to throw this "Jonah" overboard; or at least to set them to thinking about its proper and improper use.

Burgess & Lenzi's Patent "Lightning Print-Cutting Table."

THE trimming of photographic prints is attended with a good deal of labor, and it is very important that it should be neatly done. One great annoyance experienced in trimming them by the use of a glass or metal shape (held by the hand) as a guide and then using a knife, is the sudden slipping of the guide or shape from the fingers. That again causes the knife to slip, and very often destroys the print. This is particularly the case when the print is to be trimmed oval or elliptic. This accident we have known to occur at most aggravating times, for example when you are trying to finish up an oval while the customer waits for it, or with

* Not an imaginary case.

the last print needed to fill an order, thus throwing you back one or two days at least, causing you loss and disappointing your patron.



These troubles may now be entirely avoided, and much dispatch secured in trimming the prints before or after the toning, by the use of the little apparatus represented by the cut above. It is the joint production of Mr. George A. Lenzi, an old practised photographer, and Mr. Burgess, a practical machinist.

The drawing almost explains it. It consists mainly of a turn-table on which the print and glass form are laid, and by means of the treadle below, a spring lever is brought down upon the glass and holds it firmly in place. The hands are then free, one to turn the table around on its centre as the print is trimmed, and the other to use the knife. The end of the clamp brought down upon the glass is rubber, and the rod attached is fitted with a cone-spiral spring, which thus enables the rubber pad automatically to adjust itself to the centre of the turn-table when in motion. It is a most complete little affair, handsomely and well made, and by its use prints may be trimmed in about one-fourth the time usually required, and without accident.

It is for sale by all dealers. It may be fitted to any table, box, or shelf. Wilson, Hood & Co. are the manufacturers' agents.

To the Members of the National Photographic Association,

And the Photographers of the United States.

THE Shaw & Wilcox Co. hold a patent from the United States for a device for saving silver by precipitating, and have sued Mr. Lovejoy, of Stepney Depot, Conn., for "infringement." They hope to get a judgment against him, and will then put an injunction on every one coming within their claim. Are we willing to submit to this? We all know their claim is worthless in fact, as we can prove beyond a doubt, it is not new.

Mr. Lovejoy is a poor man, having lost an *arm* and an *eye* in the service of his country, and a judgment against him is equivalent to an injunction against us *all*. He must be helped in his defence with *money* as well as *evidence*. Let us all respond promptly, as we are all interested. Mr. E. Y. Bell, 43 Wall Street, is his lawyer.

Funds sent to H. T. Anthony, Esq., Treasurer of the National Photographic Association, or to E. L. Wilson, Secretary, will be used to help Mr. Lovejoy test this unjust claim.

The patentees have insulted the whole profession by arresting Mr. Wilson for "libel," because he gave his opinion of their patent in the last number of the *Philadelphia Photographer*.

A pretty claim to be sure. "I must not save my own property." These men must save it for me at their own price, or I must let it go down the sink.

The end is not yet.

ABRAHAM BOGARDUS,

President of the
National Photographic Association

The New Atelier of Loesch & Petsch in Berlin.

(Continued from page 90.)

To the supports of the roof corner-irons *e* (Fig. 2) $\frac{3}{4}$ in. by $\frac{3}{8}$ in., are riveted, and these carry the frames. The irons have three grooves, in each of which a frame can be moved without touching the other one. Placed side by side, they cover the glazed three-quarters of the roof completely; placed one above the other, and pushed under the

covered quarter of the roof, the glazed part is unobstructed. See the two cuts below:

Fig. 2.

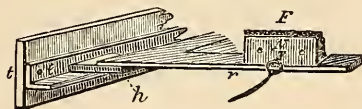


Fig. 3.

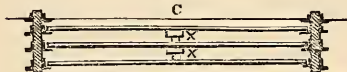


Fig. 4 will show this arrangement—cross section.

H is the rear wall; *h* a wooden covering for the roof; *r*, *r'*, *r'''*, are the frames which move in the guides as shown in the figures above. Each frame has two small hooks, *x'*, *x''*, *x'''*, etc. The frames are moved by cords, which at *H* and *V* pass over rollers, and which at *V* are fastened to the first frame. In admitting light, *r'* will move backwards, first the hook *x'* will catch the corresponding hook *x''* of frame *r'*, and take the second frame along, and so all the frames will be caught in succession. Friction is partially overcome by strips of wood, *h*, Fig. 2, which are covered with plumbago, and placed under the frames; so also are the hooks *F*, Fig. 2, covered with felt to avoid jarring.

The movement of the frames is easy and certain, and the exclusion of the light complete.

sliding of the frames; *sp*, are the rollers for the cords; *n*, rivets for the corner-irons; *W*, water-course; *soh*, washboards.

Fig. 5.

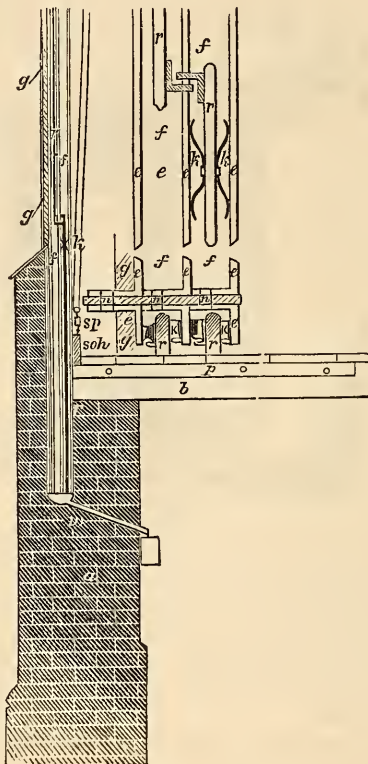
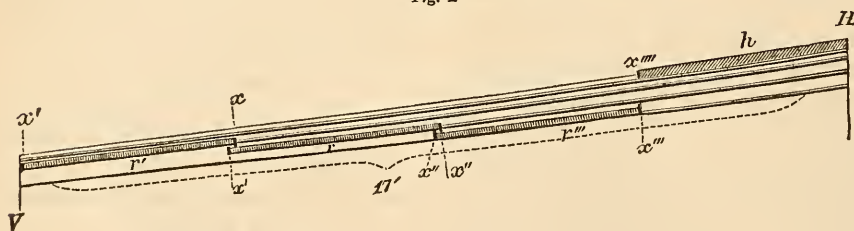


Fig. 4.



The side-light is regulated in a similar manner. Instead of three frames, two only are needed. They run in a wide groove, and can be pushed partially below the floor of the studio. (See Fig. 5.) *rr*, are the frames; *gg*, large plate glass windows, *a*, masonry; *bp*, patent floor; *ff*, the guides for the frames; *rk*, spring clamps, to prevent the

The distribution and character of the backgrounds and furniture, were made with due regard to the tendencies of the times, which in costume and everything else, inclines to the Rococo and Renaissance styles. With this end in view, one side of the studio was provided with furniture and drapery of the former style, and the

other side, with accessories corresponding with the latter taste.

The ground-plan of the studio, Fig. 6, will show the arrangement *m*, representing different pieces of furniture; *sss* are the rails for the backgrounds *d*; *tt*, supports for the roof; *t' t'*, supports for the side wall. OPEN is the stove. The backgrounds are $2\frac{1}{2}$ and 4 feet from the wall. This distance was necessary so as to enable the operator to store away furniture not in use from one day to another. (See also ground plan on page 89, last issue P. P.)

has not been changed, excepting an arrangement by which the background can be placed obliquely to the light. The light and shade effects are partially regulated by screens

Fig. 6.

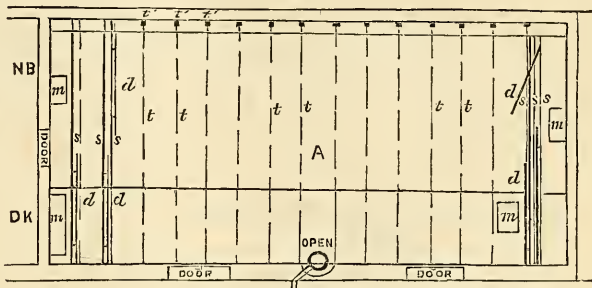
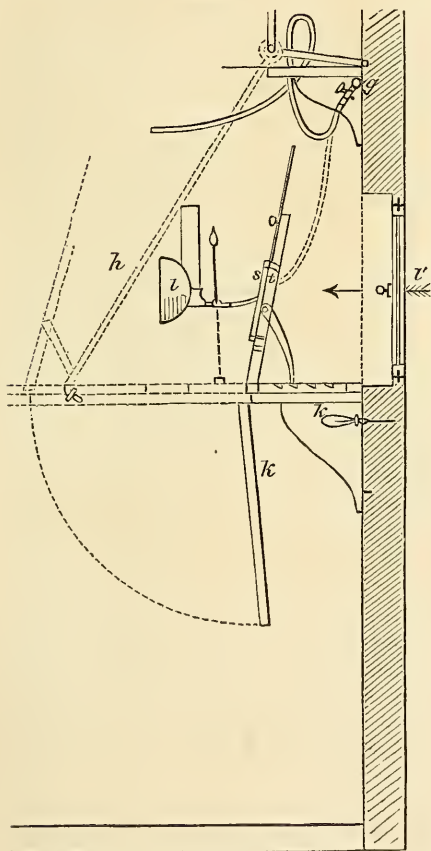


Fig. 7.



The old and practical way of moving the backgrounds on rollers and horizontal rails

and reflectors. The color of the furniture is a mixture of burnt umber and chalk, not so dark that black cloth will not show upon it.

The size of the background is 7 feet wide and 8 feet high, and as the studio is 17 feet wide, two backgrounds can be placed side by side.

In the room for negative retouching, which adjoins the studio (see Fig 6, NB), there are three desks side by side. Each desk has a ground-glass window (*U*, Fig. 7), $1\frac{1}{2}$ feet square; the front part, of the desk *k* can be raised or lowered, so as to admit of moving the easel *st* nearer to or further from the window. At night a lamp *l* is used. The lamps are provided with Argand burners, and parabolic reflectors of polished metal. The back part of the reflector being cut away, the direct light passes through, while, at the same time, the side rays also are thrown on the negative.

The other localities are not much different from those of similar establishments. A room facing south, underneath the studio, is used for printing, toning, and washing the prints. In this room the paper is also sensitized.

In the reception rooms, the aim has been rather to please by a tasty simplicity than to dazzle the eye with gaudy splendor.

The dark-room, as well as several other localities, are heated with hot air. Above the flue in the dark-room, is a wire arrangement, on which the negatives are placed to facilitate their drying.

The arrangement for washing the pictures consists of two large tin boxes. The water is introduced through many small holes, and when it has reached a certain height, two syphons empty the boxes, and the process begins anew.

Finally, it may not be amiss to say, that it is not claimed that the above arrangements are perfect, but the aim has been to go a step forward in the construction of a first-class studio.

EXTRACTS FROM OUR NEW BOOKS.

From Photographic Mosaics.

"In albumenizing plates, beginners are apt to fall into the error of using the albumen too thick."

"Old red collodion may be restored by making an equal bulk of new collodion iodized with iodide and bromide of cadmium only. Mix the two, and set aside for a few days before using."

"One of the frequent causes of failures in photographic views is, that the exposure has been too little."

"Is your lens a corrected lens?"

You 'don't know.'

Are your shields all in order, and your camera right?

You 'don't know.'

Then make the experiments, and see."

"By substituting glacial acetic acid for liq. amm. in the albumen solution for coating glass plates, an *advantage is gained*."

"*Dirt is a chronic disease*—a sickness with which many photographers are afflicted."

One hundred and forty-four pages of just such matter are found in *Mosaics* for 1870, all for half a dollar.

From How to Paint Photographs. Second edition.

"No book ever made a painter, or ever will. Neither can art be taught *practically* by books; but the written experience of others may lend important assistance to the student who undertakes the task of self-tuition."

"Be particular to obtain good brushes."

"In coloring, the light should fall upon the work from the left hand, and rather to the rear than front."

"The eyes, cheeks, ears, lips, chin, arms, hands, neck, and bosom, all require different treatment, and the instructions should be studied carefully."

"Porcelain pictures intended for coloring are best on ground-glass."

"'3 H,' '1 H,' and '6 B' Faber's Siberian pencils all come in play for retouching the negative."

"Care should be had in applying the pencil."

"In a weak, flat negative—as for instance a *copy* of a ferrotype—a fine stump and powdered lead will do great service."

"In a negative where the sitter has moved, thus causing blurring, a few judicious touches with the lead pencil will have a wonderful effect in removing these blemishes."

Mr. Ayres's book teaches fully all the details of coloring photographs, and retouching negatives of all classes.

From Professor Pepper's Cyclopædic Science Exemplified.

"The principle of the achromatic lens is not difficult to understand. Given a lens made of a certain kind of glass, and projecting among other colors a ring of red light, what color projected from another lens is required to neutralize it? The answer is obvious. Any color which, together with the red light, would form white light. That color must be green, because it contains yellow and blue; and red, yellow, and blue form white light. In the adjustment of the two lenses forming an achromatic combination, it is so arranged that the colors which would be separately produced by such lens shall, when combined, by their unequal dispersion fall together at the same spot and unite together, and thus form white light."

"The stereoscope was invented by Prof. Wheatstone, and subsequently modified by Sir David Brewster."

"Most of our daily food contains salts of potassium."

"Without sodium much of our daily food would be tasteless."

"Lithium abounds in tobacco ashes."

"Ammonium is found in thousands of nature's works."

"Calcium abounds in limestone, marble, chalk, gypsum, marls, and various soils."

"Strontium decomposes water."

"Magnesium is derived from the sea and springs."

"Cadmium from zinc ore."

Prof. Pepper's book contains nearly 700 pages, and over 600 illustrations. A fine work for the photographic student and reader.

From Pictorial Effect in Photography.

"Long experience will show that the two sides of every face differ. This is very evident in many faces; and in all, however regular the eyes may seem, or however straight the nose may appear, close observation will discover that one side is better than the other.

In photographic portraiture the face should, as a general rule, be turned away from the light. If the face is turned to the light, however delicate the half-tones may be, the line of the nose will be partly lost in equal light on the cheek behind it.

A single figure should be complete in itself; it should not appear as though it had been cut out of a group, and it should be incapable of having another figure added to it without injury. The head being the chief object, every line should be composed in relation to it, and the student will find the rules of pyramidal composition invaluable to him here.

The action of the figure should be that which is most common to the individual; such a position as shows it to the best advantage. No violent action should be allowed; no appearance of strain.

It cannot be too strongly impressed on the student that the possibilities of the figure must be considered before the attitude is chosen; every figure will not allow of every attitude, any more than a decrepit old man of eighty or ninety could perform the feats of a skilful acrobat.

The student will do well to observe atti-

tudes assumed in every-day life, and adapt them to his art. When he sees a beautiful attitude, let him speculate upon the cause of its being beautiful, and he will find that it depends for its effect on its consistency with the rules of composition.

A vignette head, when nothing more than the head and shoulders is seen, should never convey the impression that the sitter was lounging in a chair or leaning on a table; the reason being, that as the table or chair is not visible, the figure would appear out of shape and deformed. As a general rule, the shoulders should appear level, as though the subject was standing.

Make it a constant practice before removing the cap from the lens, to first give a rapid glance at the sitter, to see whether the outline of the figure composes well, that the light and shade is massive and round, and that there appears some indication of the expression you desire on the face of the sitter. If there is a lack of either of these qualities, do not waste your plate until you have got them before your lens."

We here bring these books to notice again, for now is the season when our readers have the opportunity, and when they should inform themselves by reading, on all that may be of value to them in their business and profession.

Those who study *know*, and those who know, *produce the best work and secure the best pay*. Mr. Lea's excellent manual has been so often alluded to, we need not extract from it here. Our books supply *all* a photographer needs in that line.

PERMANGANATE OF POTASH IN THE NITRATE BATH.

PERHAPS the following facts in the experience of an every-day worker may be of interest to the practical craft, and the theory derived therefrom may possibly be new to some of our more scientific friends.

A bath of 140 oz., which had been reduced to a 30 grain condition of leanness by overwork and lack of proper food, was filled up to 160 oz. (its standard bulk). This resulted in precipitating the excess of iodide which was filtered out. Being tested, it was found

decidedly acid. One drachm saturated solution of permanganate of potash was added, the bath exposed to direct sunlight *three hours*, in which time it changed from bright cherry color to a faint greenish-yellow tinge, but nearly clear. It was now carefully filtered, enough pure crystals of silver added to make it a strength of 45 grains to the ounce, poured into a thoroughly clean bath-cup, and stood over night. In the morning it was tested and found to be *neutral*, no trace of acid being present! Query.—What became of the acid?

The crystals added must have been neutral or faintly *acid*. They could by no possibility have been alkaline. No alkali was introduced at any time, yet a large bath (160 ounces) *decidedly acid*, was completely *neutralized*! Not only this, but it was *completely purified*, changing from *pin-holes, streaks, and sich*, at 2 o'clock one day, to clean, clear, perfect films at 9 o'clock the next morning.

Theory (if chemically faulty, it is practically feasible).—Nitric acid holds in solution (and consequently suspension) organic matter. Sunlight will have but little effect in correcting a disordered bath while nitric acid is present in it. Manganic acid, on the contrary, coagulates (and consequently precipitates) organic matter. Permanganate of potash, when introduced into an acid solution, acts as an absorbent of free nitric acid, takes it up, as it were, forming manganic acid, which at once, by its reaction, shows a very different character from nitric acid. The organic matter formerly held in solution at once begins to coagulate, and in a very short time falls to the bottom in the form of a dark brown or black sediment. "Matter in the wrong place" (*dirt*) is speedily removed.

Briefly, nitric acid is taken up by manganese. Manganic acid thus formed is taken up in coagulating and precipitating the organic matter present, the bath is neutralized and purified.* The process is simple, the

results obtained entirely satisfactory, and to accomplish them, the oldest and wisest heads have been puzzled occasionally for 10, these many years.

Moral.—Leave soda, and cyanide, and *caloric* alone (in treating your bath), and try permanganate, and sunlight, and filters, and *clean fingers*!

J. LEE KNIGHT.

TOPEKA, KANSAS, January, 1870.

The "ounce of prevention," which was said to be "better than a pound of cure," has been photographically ascertained to be *eight* clean fingers, which are better (and cheaper) than the *pound* of silver necessary to make a new bath!

NOTES IN AND OUT OF THE STUDIO.

BY G. WHARTON SIMPSON, M.A., F.S.A.

New Mounting Material—Reproducing Negatives—Development of Dry Plates—Improving Foliage in Negatives—American Photos of Eclipse—Retouching Negatives.

New Mounting Material to Prevent Cockling.—One of the serious incidental troubles which beset photographers, is the difficulty of mounting albumenized prints on thin cards, or on plate-paper, without causing unsightly cockling of the margin. For the portfolio or framing, the mounting-board may be sufficiently stout to obviate this difficulty; but where photographs are used for book illustration, the use of extremely thin boards or even of a stout paper for mounting purposes is imperative. The only mounting material hitherto in use, by which all risk of cockling is avoided, is India rubber in solution, but unfortunately it is altogether untrustworthy; sooner or later the prints are sure to leave the mounts.

The cause of cockling in prints mounted on thin boards is, of course, well known. A print treated with starch-paste, gum, or any adhesive preparation of which water forms a large part, absorbs the water and swells or stretches. If, in this condition, it

* The theory is wrong. Organic matter in a neutral solution of nitrate of silver exposed to the action of sunlight is decomposed, and an oxide of silver precipitated; this cannot take place when an acid is present. The permanganate of potash, *which always contains an excess*

of alkali, neutralizes the acid contained in a bath, and hastens also the action of the sun by its own decomposing properties.—Ed. P. P.

is attached to a dry board, it contracts again as the water evaporates, and necessarily drags the board to which it is attached out of shape, causing cockling or buckling. The point to be secured, then, is an adhesive substance containing little or no water. India rubber solution answers this condition; but, as I have shown, it fails in other respects. I am about to describe another preparation which also answers this condition, without the disadvantages of India rubber.

A preparation for mounting, the nature of which has been kept a profound secret, has for some time been used by certain large firms in this country, has been understood to meet all the necessary requirements. Some hints of its constitution having recently reached me, I have been induced to make some experiments which have issued very successfully. The new preparation practically consists of a solution of gelatine or glue in alcohol. This, at first sight, seems to be an impossibility, since, under ordinary circumstances, gelatine is not soluble in alcohol, but is, on the contrary, precipitated from an aqueous solution by the addition of alcohol. My first attempt to make the preparation was as follows, but was a failure; I describe the failure that it may be avoided. I took gelatine and soaked it in water for twenty-four hours, until it was well swollen, and then draining off the water, added alcohol, and placing the jar, which was covered up, in a pan of water, placed it on the fire to simmer. After the lapse of thirty or forty minutes, the gelatine was softened and melted; but it was but very imperfectly mixed with the alcohol. On adding a little more alcohol, to supply the loss by evaporation, the slight degree of mixture which had taken place was at once destroyed, the gelatine being precipitated as a tough, viscous mass at the bottom of the jar, and no subsequent amount of heat or stirring with a glass rod secured even an approximate degree of solution or mixture. This was clearly a failure, and I began again. As I finally met with success, I will describe precisely what is to be done, giving the proportions of my own experiment, which can of course be easily increased for working on a large scale.

Take half an ounce of gelatine and cover it with water; leave it in soak for say twenty-four hours, in which time it will become thoroughly swollen. Now pour off all the superfluous water, except two or three drachms; place the gelatine with this trace of water in a glue-pot, and place it on the fire. When it is melted, add six ounces of alcohol—that which I used had a specific gravity of .820. A most important point, however, is the mode of mixture; the alcohol must be added a little at a time, stirring steadily with a glass rod, and maintaining a moderately high temperature. By proceeding carefully in this way, perfect mixture is secured, and the solution is then poured into a wide-mouthed bottle, corked or stoppered, and set aside for use. It is well to rub a little of a solution of wax or paraffine round the stopper, to prevent its becoming fixed by the gelatine in the bottle. When cool, the solution slightly gelatinizes, but a very slight degree of warmth makes it fluid for use. This, applied to the print, causes a scarcely appreciable degree of expansion, and no appreciable subsequent cockling. Its adhesive qualities are perfect, and the preparation keeps well. To prevent the rigid hardness which characterizes good gelatine, I added from one to two drachms of glycerine to the preparation, which is, I think, an improvement. It is probable that any good sample of glue would answer the purpose, and for extensive use would, of course, be more economical. At first sight, the use of alcohol, for mounting purposes, seems costly; but as a little of the preparation will mount many prints, the expense need not be very serious. For mounting photographic book illustrations, I think this will be found especially valuable.

Reproducing Negatives.—A method of multiplying negatives is coming into use in this country, which is simple, and seems to possess many advantages. It consists in printing by superposition on collodio-chloride of silver, instead of using the usual method of camera printing on wet collodion. One of our stockdealers, Mr. Solomon, has introduced the method. I may here mention, by the way, as a novelty in the business of a stockdealer, that Mr. Solomon has recently made arrangements to give lessons

for a moderate fee, in certain unfamiliar processes, such as reproducing negatives, producing photographic enamels, enlarging, etc. The method of reproducing negatives is as follows: A sample of collodio-chloride paper is prepared with an express view to the final removal of the film from the paper. It is something like the Obernetter enamelled paper, the collodio-chloride of silver being applied to a paper having an enamelled surface consisting of some white pigment and gelatine. Upon this the negative is printed very deeply. The image may be toned and fixed in the usual manner; but simple fixation in a hyposulphite solution is, I think, best, as a fine, non-actinic color is so secured. The print is washed, and then placed in a dish of hot water, which loosens the film but does not detach it from the paper. The print is then placed, face down, on a plate of glass, and the paper is lifted away, leaving the film on the glass. A broad camel's-hair brush dipped in warm water is used to remove all the traces of the white pigment, etc., from the film. This done, a piece of paper is laid upon it, one edge of the film turned over, and the whole is then lifted up together in order to place the film on its final resting-place. This is another plate of glass to which a coating of a very weak solution of gelatine has been applied and dried. It is placed for a moment in cold water to moisten the gelatine, and the film containing the image is applied to it, and pressed down with a small elastic scraper of vulcanized India rubber, called a "squeegee." The paper which had assisted in the transport of the film is now lifted away, and the transparency is left to dry.

To reproduce the negative precisely, the same operations are repeated, printing on a piece of the same paper from the transparency, and transferring in a similar manner. By this means, very excellent reproduced negatives may be obtained, the fixed but untuned silver image being of an excellent printing color.

It is worthy of remark, that even if the paper be very old and much discolored, it answers perfectly well, for it is found that this discoloration is confined to the paper, and does not affect the color of the collodio-chloride image itself.

Besides its use in the reproduction of negatives, this paper is used for producing fine transparencies. Messrs. Geymet & Alker prefer the transparencies obtained in this way, for use in their mode of enamelling, a better result being obtained from them than from transparencies obtained the usual way. The transfer paper in question (of which I inclose a sample), is I believe prepared by the French firm, named expressly for obtaining the transparencies which serve as *élichés* in their enamel process.

Development of Dry Plates.—The alkaline method of developing dry plates, especially those in which a bromide only, or a large proportion of a bromide is employed, appears to be largely superseding acid pyrogallie solutions, and silver. I have recently had an opportunity of examining some exceedingly fine photographs of Athens, and its classic environs by a countryman of your own, Mr. W. J. Stillman, American Consul at Crete. These are taken on collodio-bromide plates, supplied commercially by the Liverpool Dry Plate Company; and as the results are unusually excellent, a brief description of the method of developing, which is a modification of existing alkaline methods, may be interesting. Mr. Stillman says:

"I commence with pyrogallie acid alone, three or four grains to the ounce of water (a preliminary application of alcohol and water being *indispensable*), and let the film get thoroughly saturated with it. If at this stage any sign of image appears, I drop one drop of dilute ammonia (five per cent) into the developing glass, and pour the pyrogallie back into it: returning, I leave it on till the detail begins to appear in the shadows, when I drop in four to eight drops of ammonia, and one drop of bromide of potassium (five grains to the ounce), and continue. If the shadows show any sign of fog, I immediately add six to eight drops of bromide, and then drop in ammonia drop by drop till I get the required intensity. If, on the other hand, no image appears from the pyrogallie, I drop in ammonia drop by drop, at intervals of ten or fifteen seconds, until all the details appear, without any necessity of adding bromide; but if, when all detail is out,

there is not sufficient intensity, I add the ammonia and bromide solution in equal quantities."

Mr. Stillman speaks very highly of the keeping qualities of these plates, both in hot and cold climates, and in all sorts of weather.

As I have said, the examples I have seen are the most admirable, some of them equal to the best wet collodion pictures.

Improving Foliage in Negatives.—I may mention a good suggestion of another correspondent. It consists in the use of the lead pencil, for giving vigor and crispness to detail in foliage, where some lack of these qualities may be apparent. The correspondent says:

"A good deal has been said in favor of lead pencil or working up negatives, but I do not think the following has been mentioned. If a negative in which foliage is too weak to print well is varnished *bright and hard*, a BB or BBB pencil can be rubbed vigorously over it in all directions, and will bring it up in due gradation without fogging the shades, or showing the touches."

It will readily be seen that the principle upon which this mode of improvement is based, is found in the fact that the lights of the foliage, having received more silver than the shadows, will possess a slight degree of relief, and the black lead thus rubbed will adhere to the prominent points, and not to the small interstices of shadow, and so increase the printing vigor of the lighter parts.

American Photographs of the Late Eclipse.—I have just received from the United States Naval Observatory, at Washington, the complete report, and from the Surgeon General's Office, photographs and illustrations of the eclipse of August last. I have no hesitation in saying, that together they make the most complete and valuable, and the most perfect and handsome report, which has ever been issued of a photograph eclipse. It must be as gratifying as it is creditable to every person concerned, both in securing the photographs and issuing the report.

Retouching Negatives.—Mr. G. Crougton, a skilful artist, who has shown me some of

the finest results I have seen produced by retouched negatives, in speaking with the constant experience in this work of several years says, speaking of the most suitable materials:

"The materials I use are blacklead pencils, blacklead in powder, a stump, sable pencils, and water-color. The lead pencils I have found best for retouching are Faber's; I find them less powdery than others. I use three sorts: F, F B, and B. But the lead, both in powder and pencils, I can only use for very large heads. For all heads under one inch I use color. A very good color for the purpose is Payne's gray, or a gray made by mixing Indian red with cobalt blue; but I prefer a color made from the negative film; it is some little trouble to prepare, but it is much the best for use, as it matches the color of the negative, and your only care need be to keep the true gradations. It might not, perhaps, be so much trouble to prepare if I had the proper appliances to do it with, but my mode of procedure is very primitive: I get the films of several negatives (they must have been intensified and fixed, but not varnished); these are dried and pounded in a mortar, and then ground upon a piece of glass with a little weak gum water. It is this grinding that I find the greatest trouble, for it must be very fine indeed, or it will work lumpy. The brushes I use are the ordinary sables used for water-color painting; but before using a new brush I pass it through the flame of a taper to get rid of the fine flue at the tip.

It is a good thing, to prepare the surface of the negative to take the lead. This is done by rubbing some prepared chalk over it with a soft linen rag, rubbing with a circular motion all over the parts to be touched (I may here remark that I have all negatives varnished before I work upon them, either in water-color or lead); this takes the brightness off the varnish, and gives a fine tooth that takes the pencil beautifully.

The powder lead I use principally for filling up accidental markings, such as streaks, etc.; I sometimes use it to lighten heavy shadows under the eyebrows, and for putting in a light on a dark background *a la Salomon*. It is put on with the stump. I make

my own stumps, for the leather ones sold for crayon work are too hard for the purpose. I paste several thicknesses of fine blotting-paper together with starch paste, then paste all over the inside, and roll up into a stick; when dry, it is cut to a point. This makes a much better stump for the purpose than any you can buy."

Reference to retouching recalls to my mind that I have just examined the very admirable little work you have recently issued, entitled *How to Paint Photographs*, by Mr. Ayres, and am much pleased with its essentially practical character, both in reference to the retouching of negatives and the various modes of finishing prints. The practical hints of a practical man are manifest throughout the book, and render it most valuable aid to the student.

NEGATIVE RETOUCHING.

BY W. J. BAKER.

Now that the retouched negative is fairly before the photographers of this country, and seems neknowledged on all sides to be a good thing, it is of moment to consider how we shall wisely use this new power, which is capable, in so great a degree, of modifying, even altering, the character of our negatives.

Few who can obtain the facilities for this method will need urging to its use, as they will be driven thereto by ever increasing competition. The first to adopt this plan will naturally be the most ambitious, those who already are looked upon, both by the public and the fraternity, as leaders, and what they set forth is always likely to be admired by the one and followed by the other.

What *not* to do, becomes then of importance, lest a meretricious style be foisted upon us, by a demand from the public that we do something mechanical and inartistic, because some one of metropolitan location and continental fame does the same.

That this is no imaginary bugaboo the experience of many of us will attest, who have been asked to imitate the worst points of objectionable productions, as far as we could see, simply because the back bore a celebrated address. But of this further on.

The first point to consider is, that the process in one respect is radically different from touching on the print. There every stroke reduces the lights, while on the negative every mark makes them more intense. The one lowers the lights, the other works up the shadows.

This indicates that special care should be taken to keep those negatives intended for retouching soft, and thus allow for the intensity added by the pencil. Most of the prints, from retouched negatives, done in this country, exhibit this fault in a glaring degree. An originally opaque negative is worked till, instead of a *picture*, it gives only a *map* (note the difference) of the face, by all but total obliteration of the modelling.

Did I say this country? I will not so limit myself. In my collection of a few foreign photographs there is a vignette of a lady with not ungraceful features. She is dressed in immense style. The face of this picture is so white that it almost shames the unshaded paper margin. Among some of the best photographs from abroad, this at once rivets attention.

"Who is that lady? Is she not lovely?"

"I do not know, madam; this is a Paris photograph."

"Oh! Paris! How elegant! how perfectly clear! Why is it that we can't get such photographs in this country?" And then considerably, as if in deference to a wounded vanity: "I suppose they have such a clear air there." And because this photograph, not a solitary exception, has the prestige of a foreign name, and is poor enough to meet an ignorant taste, nothing will convince three out of five, but that their photographs are inferior in those very points in which their excellence consists.

Let us then guard against too much of this kind of clearness, lest we revert to the evil days when we ignorantly thought a negative must be as opaque as a brick, to print at all on albumen.

A lesser degree of this same fault is almost universal on retouched work, by which parts of the negative being rendered too intense, what artists call the "*keeping*" is destroyed. This is a defect but little obvious to the uncultivated eye, and would among artists be much more readily detected by a sculp-

tor or painter than by a photographer. Being a matter that must be *perceived* to be understood, it is somewhat difficult to explain verbally. In a photograph the fault might exist thus. The line of the cheek-bone being prominent, would at a certain angle catch too much light, become too white and glistening, and thus have an undue projection in the proof, seeming to start out beyond the rest of the picture. In a profile, the nostril, or rather the base of the nose next the cheek, is almost sure to exhibit this appearance. In a front or three-quarter view, the flattening of the light down the front of the nose often makes that organ seem too broad and thick. Inversely an exaggerated shadow may retire a part too much, as the eye, under a very projecting brow or a hollow cheek, when too much top-light is used. In these and many other ways the features are thrown out of keeping and the face distorted, in plain photographs, and examples in plenty lie before me to show that the busy pencil can magnify and improve these occasions to the point almost of the grotesque.

Such cheeks, chins, and noses, never belonged to any human face, as are seen on some foreign cartes.

A third defect, hardly different from the last in result, is in the obliteration of detail, that follows the pencilling. The modulations of a good plain photograph are infinite; no point so small but has its gradations, finer in an exquisite degree than the pencil's point can follow. The fine texture of the skin, and the delicate grading of shape, cannot be approached by the regular stipple of handwork, which only destroys them and introduces in their stead conventionalities, and a mechanical finish, more allied to the polish of cabinetware than to art.

Here is our greatest danger, here is the snare, into which some photographers of the old world have already fallen. The public is pleased and tickled with this formal, smooth prettiness. It is the next best thing to "clearness," apparently, but what a degraded remove from that truth which lies within our power.

The last danger I shall venture to point out is that of leaning too much on the

pencil for effect; of merging the photographer in the retoucher; of saying "that will do if it is touched up a little." A true pride in our art will doubtless preserve most of us from this error.

There are cases, as of short exposure of children, where it may not only be allowable, but very praiseworthy, to be able to work up a negative that, untouched, would be useless.

But shall the use of the pencil be limited to such exceptional instances? By no means. It does not follow that because of some subjects a photograph can be obtained presenting the truth in a form, lovely almost as nature's self, that this is always or usually possible.

There is yet another consideration. People see their friends at home and themselves in the glass, by a very different direction of light than the photographer uses. At home the light is from windows low at the side, from many apertures, rather than from one, and is soft, diffused front-light, for when we want to have a good look at our friends, we get between them and the window.

This light penetrates the hollows and recesses of the features, and shows them shadowless; removing in a measure the haggard look from a thin face, and hardly revealing the lines of care and age.

To obtain rotundity, many artists so light that the face is burlesqued rather than represented. This relief of the face is by no means the artistically desirable thing that might be supposed. The cultivated eye requires the subject to be represented, not imitated; and revolts at being deceived into the idea, that what is known to be a flat surface, can paradoxically have projections. However suitable the stereoscope may be to give us topographical notions of things and places we have not visited, or to remind us of those we have, it is but an optical toy, and its illusions create wonder rather than artistic joy. If the production of the rotundity of life was the apex of art, then a wax figure might be a very noble thing, and a colored wax figure the highest effort of genius; whereas the nearer such a work is done to life, the more disgusting it is.

But this is rather aside from my object,

which was to show that by forcing the relief of a picture, the usual and homelike expression of the face is neglected. On seeing themselves so portrayed, many persons exclaim, with the little old woman, of whose somnolence our nursery rhymes tell us, that the peddler Stout had taken a base advantage, "This is none o' I," and their friends confirm the verdict, not being accustomed to seeing the features so illuminated, and feeling that the most objectionable parts of the physiognomy have been exaggerated.

Ruskin says that "every good picture has a certain flatness," though he does not mean a map-like flatness, but a quiet retiring effect, harmonious, and implying the best of modelling. In almost the same passage he warns against painting so that an arm, limb, or feature starts out from the canvas, simulating the reality of life.

Much more can be done to modify the defects of disagreeable features than many suppose. By perfect harmony in the chemicals, placing the sitter in a diffused light, full timing, and avoiding much intensity, glaring imperfections are reduced to a minimum, and then, but not till then, when all the resources of the photographer have been exhausted, and you can conscientiously say, "I can do no more," call in the pencil, to remove, as far as may be, the unavoidable exaggerations of the negative.

The skin-spots, freckles, warts and moles, chemically too intense, the wrinkles seen with the broad eye of the camera, the shadows under the brows, nose, and chin, and the hollow cheeks, all weak points in our art, by reason of the tendency of the chemicals to overdo the lights, before the shadows are out, all these may be carefully stippled to a more normal condition.

Nor is this all; an intractably stupid or surly expression may be made rather pleasing, by obliterating the puckers in the forehead, and the wrinkles between the brows, separating these latter a little, and arching them slightly, more sweetness given to the mouth by altering the curve of the lips; the eye rendered vivacious, when it is too dark, by touching in a catch-light at the top, and a softer transmitted light underneath. In these, and other ways, a correct

observer of physiognomy can do much, without departing from nature, for we must be careful to conform to the action of those muscles that give a lively expression, in order to represent the subject, not, indeed, as at the unhappy moment of the agonized sitting, but more as he or she appears at home among cheerful friends.

The argument some operators consider as exhaustive, "Well, that is just as you looked when you sat," is seldom convincing to the customer, and is founded on a limited view of the aim of portraiture, and the capabilities of our profession.

It is, of course, impossible to indicate what may or may not be done in every individual case, in softening asperities of the negative. This must be left to what good taste each operator can exercise.

The writer will feel satisfied if he has protested against the evil of formality, to which the profession seems in danger of being driven, in time to open the eyes of the more earnest and inquiring among us, and thus hinder the abuse of the opportunity for license now afforded us.

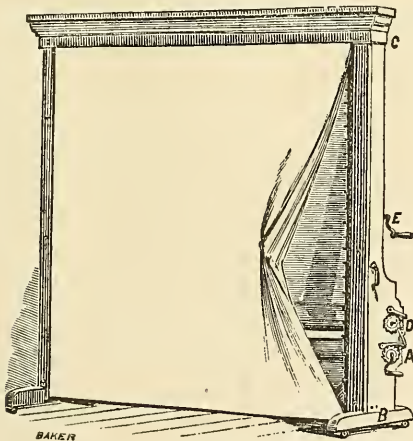
Most—and the writer sees the danger clearly, from having here one of these—most will at first glance deem the highly finished mechanism of the pencil, its pretty surface, superior to plain work; and perhaps it is better in many instances, but on the other hand, few of us know what can be done with the camera and chemicals alone, of which the works of Adam Salomon are undoubtedly the highest exponent. This truly *great* artist obtains his highest effects from the plain negative, and those who have had the opportunity of studying his productions, will return lovingly to them with satisfied eyes, long after they have detected and wearied of the hypocritical conventionalities, that at first seemed so beautifully "smooth and clear."

Anderson's Patent Background Frame.

IMPROVEMENT has been made in all photographic furniture and apparatus except the background screen, which is still in its primitive state, viz., a frame with canvas tacked on; and every photographer knows

the inconvenience of having several of these in an operating-room, being as a general thing unsightly in themselves, and taking up a great deal of valuable room, or limiting the photographer to the use of a very few, which, if scenic, gives a sameness to the work. To obviate this, the invention we describe below is so constructed, as to use any number of backgrounds on one frame, holding fifty equally as well as two. It is set upon castors, and can easily be moved to any part of the operating-room, is easily adjusted from one scene to another, and so contrived as to lighten the cloth top, bottom, and sides, making a perfectly smooth surface.

Another method of using this invention is as a moving background, by having two or three plain backgrounds of different shades after each other, and then winding on one of the middle rollers, it may be moved either up or down, producing a perfectly smooth and uniform tint from the roughest background. The frame can be made in any style of architecture, and of any wood or combination of woods, thus making a very ornamental piece of furniture, or may be made plain and cheap, and just as useful. For the better understanding of the working and construction, reference may be had to the cut. The cloth



is continuous, and may be used of any length. The frame consists of four rollers, at A B C D, C being placed at top, and B at the bottom of the frame. A D is the

middle roller set a little farther back, upon which the canvas is wound. By winding on to one of the rollers A D, it unwinds from the other and exposes change of scene. Upon the ends of the rollers A D are ratchet-wheels, whose teeth point in different directions, provided with pawls, which are so constructed as to keep the rollers A D in any position, by which the canvas is tightened lengthwise; said pawls can be raised and lowered at pleasure.

By applying the crank at E, the canvas can be tightened sideways to suit, thus making the cloth securely fastened on all sides.

For further particulars address

J. A. ANDERSON,
212 Illinois St., Chicago, Ill.

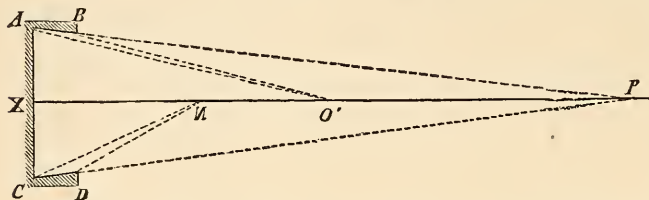
GERMAN CORRESPONDENCE.

Lenses for Large Heads—The Effect of Distance and Wide Angle in Landscape and Portrait Photography—On Failures in Group Pictures—The effect of Large Aperture—Potato Noses—Genre Pictures.

IN a previous letter I discussed the effect of distance in portrait photography, and demonstrated how the same person, taken at longer or shorter distance, will appear stouter or more slender. The article has given rise to considerable argument in Berlin, and I am glad to say that practical photographers have already taken advantage of my suggestions, particularly in taking the large heads which are now so much in fashion. For heads in normal proportions, a distance of 90 inches is correct, and a carte-de-visite lens of $2\frac{3}{4}$ inches diameter, and from 6 to 7 inches back focus, is most suitable. For a stout figure, which is to appear more slender, I would recommend a carte-de-visite lens of $1\frac{3}{4}$ inches diameter, $3\frac{1}{2}$ to 4 inches back focus, and a distance of 60 inches. For a small figure which is to appear larger, a cabinet lens of 3 inches diameter, about 10 inches back focus and a distance of 130 inches, will answer the best. If this does not give fullness enough to the figure, then a 4-inch lens with 15 inches focus will do better, but a skilful operator will get along very well with the first three lenses. I must not ne-

glect, however, to remark that the effect on hollow bodies is just the reverse.

Take, for instance, a hollow box with inclined sides, A, B, C, D. A person standing



at P will see nothing of the inclined sides, but, when he approaches closer they will become visible, and, as a consequence, the box will appear to be broader. This is strikingly illustrated by street views taken at short or long distances. When we go too close, the foreground will appear very broad, almost unnatural. The same thing happens in portraiture, not only with bust but also with full-length figures. Let C, D, for instance, be the foot of a figure, A, C, and you will see that the foot, as well as the floor underneath, will appear larger at a short distance, and, *vice versa*. Something similar will take place with the lap of a sitting person. I will give you an illustration.

Fig. 33.

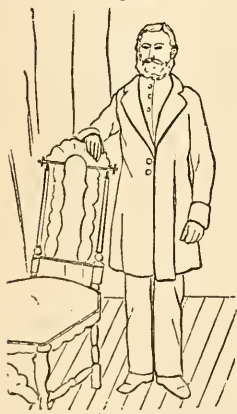


Fig. 34.

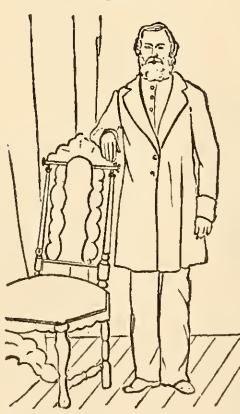


Fig. 33 was taken at short distance and Fig. 34 at long distance. In both instances the apparatus was placed exactly vertical. The floor in Fig. 33 appears so strongly inclined as hardly to afford a safe foothold, and the chair looks crooked. The pictures were made with non-distorting lenses. There are, however, other curious errors, which

make themselves particularly felt when we work with wide-angle lenses.

I have mentioned to you in a former correspondence, a picture of a church here.

The church has two cupolas, and the picture was made with a Globe lens. The building appeared correct and perfectly perpendicular, while the two steeples

seemed to incline one against the other. The cause was much discussed, and generally considered as a fault of the lens, but this is not the case, the fault lies in the central perspective, and, to give a striking illustration of this, I would call your attention to Fig. 28, a photograph of five balls made with a lens free from distortion. You will observe that the ball C only is perfectly round; all the others are more or less oval. Nobody would believe that they were all photographs of the same-sized balls, and yet the thing is perfectly natural; take, for instance, three balls, A, B, C, Fig. 29. Each ball will send a cone of rays on the optical centre, O, of the camera, K. These cones

are cut by the ground-glass at different angles. See *d c, f g, h i*. In the latter instance the intersections must, of course, form an ellipse.

I also wrote to you about the picture of a castle with a row of statues in front, which, towards the corner of the plate, became stouter. The case is exactly the same as the balls. Figs. 31 and 32 will give you two such figures, which I have cut from two different pictures of a relief. Fig. 32 is taken at short distance, Fig. 31 at long distance. The head of Fig. 32 looks as if it had water

on the brain, inclines forward, and the left foot is turned outward. Perhaps it will be objected that the nearness and distance in taking these pictures have been exaggerated, but this is not the case. For the balls B and D the angle of vision is only 35° ; for the balls A and E, $64\frac{1}{2}^\circ$. It is no uncommon thing, in taking groups in

Fig. 28.



Fig. 29.

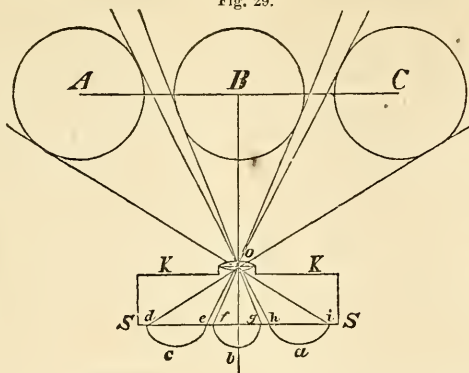


Fig. 31.



Fig. 32.



the studio under an angle of 40° , and in landscapes and architectural objects we do not hesitate to employ an angle of 90° . Hence, the improbabilities and apparent distortions in so many photographs, and which must be avoided when we desire to produce a pleasing picture.

Lately a photographer, Mr. Oldenberg, gave me an instance which shows what an important part the above observations play in the taking of groups. He made a picture of a company of soldiers at a distance of about 100 feet. The picture was taken in the open air. He afterwards took the same company in his studio, when the men to the right and left complained that they looked too broad, and they preferred, the, in other respects, inferior group taken in the open air, in which the proportions were correct. Finally, Mr. Oldenberg cut out the broad figures at the edges, and replaced them by the well-proportioned ones that had been taken in the open air.

From the above we draw the conclusion that, in a group, the marginal and central figures are different. When we go nearer to the group the central figures will become more slender, exactly as in the Apollo bust in your February issue, while the marginal figures will become broader as in the annexed Figs. 31 and 32, and we draw the practical rule that in groups we should place the stout persons in the centre, the slender ones at the margin, and not make the distance too short. The next thing to be considered is the aperture of the lens. Many a practical man must have noted the peculiar plastic appearance of the head on the ground-glass of the camera; this is particularly the case with statues, and partly at least this effect must be transferred to the negative. Lenses with small openings do not show this plastic effect, and hence it is connected with the size of the aperture. Take a lens of $2\frac{1}{4}$ inches aperture; the diametrical opposite points are as far removed

from one another as the eyes in our head. As our right eye sees a little more of the right side and our left eye a little more of the left side of the sitter, so the right and left side of the lens will take in more on either side, and hence produce an almost stereoscopic picture on the ground-glass.

That this is no illusion, is easily demonstrated by experiment. If we take a plate of opal glass, place the same exactly vertical, so that the plate will face with its sharp edge towards a large portrait lens; if we now focus this edge we will find that not only the edge will appear on the ground-glass, but also to the right and left of it a bright line will appear, which proves that the lens not only sees the edge but also on either side parts of the surface of the plate. When we cover the right side of the lens the bright line will disappear on the right side, and *vice versa*, and, unless we have focussed very exactly, the sharp edge will appear blurred and the margins confused.

Unfortunately we have a similar object with a sharp edge in our faces, called nose, and it is no unfrequent occurrence that similar appearances take place with this member of our face. When the camera is far removed from the sitter it does not make much difference. When the camera is very near, and we focus with a large lens sharp on the eyes, the outlines of the ridge of the nose will often appear blurred and without sharpness. The nose will appear thick and clumsy; we call such noses here potato noses. This will take place most frequently with lenses of large aperture and short focus (3 to 6 inches), and, in order to avoid it, it is best to take a three-quarter face.

I received, a short time ago, your February No. I was glad to see that *genre* pictures receive more attention in America. Not long ago our Society for the Advancement of Photography received from Mr. H. Merz, of New York, a collection of these charming pictures as a present. I have no doubt that the stereoscopes of Loescher & Petsch have given the first impulse in this direction.

Similar attempts to produce *genre* pictures have been made here; however, the thing is not so easy as it appears. An original case came recently under my own no-

tice. Perhaps you know the pretty pictures called "Motherlove." A young mother in modern costume sits reading in a fauteuil; her little son approaches from behind, and, standing on a chair, embraces her. Surprised and delighted, the mother drops her book and kisses the child.

A photographer tried to imitate this picture from life. A young lady for the character of the mother was easily found; she took her position very gracefully and made a very affectionate face, but the boy who should represent the son was not so easily managed; he seemed to have no inclination to embrace his pseudo mother; he made a strong opposition, and only a sound thrashing brought him finally to terms. This, of course, had fatigued the lady, and finally the result was, that the boy looked as if he would choke his mother, and the mother's face had the expression of a reproach for being interrupted in her reading.

This is only one instance, but Loescher & Petsch and Milster can give hundreds of instances where a beautiful idea had to be abandoned on this account.

Yours truly,

DR. H. VOGEL.

THE SOLAR NEGATIVE PRIZE.

THE judges selected by Mr. Moore to examine the negatives sent to compete for the gold medal offered by him for the best solar negative, were Messrs. J. C. Browne, A. J. De Morat, and A. Hemple, none of whom were competitors. According to the offer and conditions of Mr. Moore, the judges proceeded to select from the thirty-three negatives sent, the five they considered best, and from that five, the one to merit the award. The following persons' negatives were then selected:

1. F. W. Horton, New York City.
2. O. B. De Morat, Philadelphia.
3. Thomas M. Saurman, Norristown, Pa.
4. Charles Stafford, Norwich, N. Y.
5. P. B. Jones, Davenport, Iowa.

Prints were then made from each of the above by Mr. Moore, with equal care, and submitted to the judges, when they awarded the prize to Mr. F. W. Horton, Brady's Gallery, New York City, and so reported to

Mr. Moore. Mr. Horton has our best congratulations. His picture is a very beautiful one of a little girl. The other four are also fine. The decision was made just as we were going to press. We haven't space to say more about them now.

At the Cleveland exhibition, Mr. Moore will exhibit prints from the five chosen negatives, and the negatives also. He will exhibit also prints from several of the other competing negatives. A print from the prize negative will soon be forwarded to the five parties chosen, and then others who want prints from the prize, or any of the competing negatives, may obtain them of Mr. Moore, on conditions named in his card in *Specialties* this month. Some of the subjects chosen are very good, and the work choice for specimens. The committee will probably have something to say in our next on the subject of making solar negatives, that will be useful to all who make that class of work.

GATHERED FRAGMENTS.

BY DAVID DUNCAN.

CASTING my mites from time to time into the treasury of photographic knowledge, I feel inclined to swerve from the beaten track of formulas for collodions, developers, etc., being thoroughly imbued with the conviction that the best results are obtained by the simplest means. It would not be wise on my part, however, to say we have collodions enough, developers enough, intensifiers enough; for, doubtless, there is gold remaining in the old lode yet. But to the point. I generally jot down any fragments of information I come across, which I think may be of service to the photographic art. I here give a few of them from various sources, hoping they may be useful (*sine die*) to the reader who is unacquainted with them.

1. I am indebted to a gentleman named Wright, an ingenious member of our profession, for the following simple but practical idea. Many photographers, when making albumen solutions, either for coating glass plates, dry plate work, collodio-chlo-

ride, etc., spend much time in effecting a combination between the white of egg and water by beating the whole to a froth. Mr. Wright's plan is to put some broken pieces of glass into a clean bottle with the albumen and water, shake a few minutes, and filter. The broken glass speedily "cuts up" the albumen, thus rendering the *modus operandi* simple and effective.

2. Chloride of copper completely removes even from colored woven cotton tissues, stains occasioned by nitrate of silver. They require, however, to be washed afterwards in a solution of hyposulphite of soda. From white calico or linen, nitrate stains are more readily and effectively removed by applying a DILUTE solution and rinsing in plenty of fresh water. By the above means, cyanide of potassium, so highly poisonous, is rendered unnecessary, and, let me add, may possibly be a good substitute for cleansing the hands from nitrate stains.

3. By adding a few drops of liquid carbolic acid to iodine tincture the latter does not stain.

4. The following makes a rapid drying cement, and may be useful in the laboratory:

Amber, 1 part.
Bisulphide of Carbon, . 1½ parts.

5. An indelible and good black ink is of service to the photographer; the foregoing is excellent. Grind aniline black with a mixture of sixty drops of concentrated hydrochloric acid, and one and a half ounces of alcohol, the resulting liquid to be diluted with a hot solution of one and a half drachms of gum arabic in six ounces of water. If one and a half ounces of shellac, dissolved in six ounces of alcohol, be substituted for the gum, the composition is suitable for blacking leather, wood, brass, etc.

6. Prof. Scheerer, of Frieberg, Saxony, suggests a simple method for purifying water. It is based upon the property that a neutral solution of sulphate or peroxide of iron has for decomposing organic matters. It is thereby converted into a basic insoluble salt, which carries the impurities with it to the bottom. This suggestion may be of use to the photographic chemist, and therefore not out of place in this journal.

On the Source of the Difficulties Presented by The Collodio-Bromide Process.

BY M. CAREY LEA.

SOME years ago, whilst experimenting with various dry processes, I recognized in the collodio-bromide a capacity for giving a certain indescribable harmony of effect that no other dry plates seemed to yield. I do not think that the nature of this action has ever been truly described; it is commonly said that bromide of silver does not easily solarize; but that is only a part of its merits. The truth is, that the effect of light upon bromide of silver seems to spend itself, if I may so express it. After a time, its action proceeds at a slower rate. If it solarized, then the highest lights would be less dense than those just not solarized. If the action stopped short after a certain extent, then the lighter half-tones would overtake the high lights, and so greatly injure the general effect. But the gradual slackening of the action without cessation of it, enables the collodio-bromide process, when well managed, to render contrasts in a way that no other dry process that I have ever used is capable of doing.

This priceless advantage has caused me to adhere steadfastly to this one process, of which I have tried innumerable variations. Like all those who have tried it, I have been annoyed at times by the plates failing, and when one plate has done so, generally the whole batch did likewise; this seemed to point to some essential error in the received method of working the process.

In the introduction of a chloride into the collodion, I found a material gain. Since I wrote the paper in which I described that innovation, and which was published about ten weeks ago, I have carried on an uninterrupted series of experiments. At last I have reached the secret of the whole difficulty, and have found its complete cure. To make the collodio-bromide process work with regular success, it is necessary to add an acid, preferably a strong mineral acid, to the collodion.

This may seem at first an extraordinary proposition, but upon examination it will be found right, theoretically as well as practically. In the wet process we have often

acid in every stage of the work. The collodion is acid, or at least contains free iodine, which is virtually the same thing; the bath is generally acidified, and the development is usually acid also. Now it is well known that bromide of silver bears acid very much better than iodide, that is to say, that the introduction of a bromide into the ordinary collodion for the wet process, enables the bath to be acidulated without loss of sensitiveness, which was not the case when simply iodized collodions were used. With the total exclusion of iodide of silver of course the capacity to bear acid is increased, and yet we have committed the absurdity of trying to work the collodio-bromide process with purely neutral materials, thus making it a solitary exception in the whole range of collodion methods. Even in the bromide process with a bath, acid is used, and very liberally; in fact, more so than in any other process, wet or dry.

The negatives afforded by the acidified collodio-bromide process are remarkably beautiful in appearance. They are beautifully clean, show the details even in the high lights when viewed as positives by reflected light, held before a dark background. Very deep shadow, such as an open window, is represented by clean glass. The high lights, when the plate is looked at by reflected daylight, have a peculiar metallized coppery look. The back of the film, as seen through the glass, is just as clean and brilliant as the front.

The acid which I use in preference is *aqua regia* in its active state. It is only necessary to mix in a stoppered vial, an ounce of ordinary nitric acid and two ounces of ordinary hydrochloric acid, and to gently warm the bottle until the acids react upon each other and the mixture passes into its active state by formation of chloronitrous acid. This is indicated by the liquid becoming orange color, and by the formation of small bubbles of gas in it. The stopper is then put in, and the bottle set aside for use. A convenient way to apply the heat is simply to set the vial on a stove. The proper proportion is one to two drops to the ounce of collodion. A considerable amount of experience will be necessary to decide which is best; at present I incline to one drop to the ounce, but

have at times used two very satisfactorily. The best way to apply the acid is to drop it into a very small porcelain capsule, and then turn into the collodion bottle as much as will run off. To get the rest in, pour a drachm or two of the collodion into the capsule and back again; at first there will be a gelatinous drop formed, but by repeating the pouring six or eight times, this will redissolve, and the whole of the acid be transferred. The time of acidifying seems not to be very important; I have sometimes added the acid immediately before sensitizing, and sometimes a month before; in both cases with good results.

The effect of the acidifying is extremely marked. The excess of nitrate of silver, which before could not be brought into actual solution without fogging, has no longer any such tendency. This I have tested critically by dissolving the whole of the nitrate of silver beforehand, and then keeping the materials for a day, or even two days, in contact with frequent shaking. Even with this treatment the negatives came out perfectly clear and bright, without the use of bromide in the development. Indeed, it is doubtful if that agent will ever be necessary; at least, so far in my numerous experimental plates, I have never employed it.

It seems proper here to guard against a very obvious mistake which, nevertheless, occurred on a previous occasion. I do not suppose that the use of acid would be of the slightest benefit to those who work the collodio-bromide process *with excess of bromide*, nor was the chloride of copper intended to be so used.

In order to measure the value of this new method, I have carefully tested it against, 1st, My former process; 2d, Mr. Dawson's process; 3d, Major Russell's rapid bromide process.

1. Compared with my former process, this possesses almost if not quite the same sensibility, gives clearer negatives, and is more certain.

2. Compared with Mr. Dawson's, its sensitiveness is materially greater than that of plates prepared by his method. These last are bright and clean, but the acidified collodion gives plates still brighter and cleaner.

The difference in the amount of manipulation is also very important. Mr. Dawson is obliged to wash out the excess of bromide with extreme care to attain only a moderate sensitiveness. In my new process as in my former, leaving the plate for ten minutes in a pan of water is quite sufficient. Nor is distilled water needed; but common river water or spring water answer every purpose.

3. Compared with Russell's rapid dry process, the new method gives clearer and brighter plates with a sensitiveness nearly equal. Here the difference of manipulation is enormous. I think I am within the mark in saying that in any given time, at least three times as many plates can be made by my process as by the "rapid bromide," and plate for plate, I prefer the collodio-bromide.

The following are the manipulations:

COLLODION.

Ether,	. . .	20 fl. ounces.
Alcohol,	. . .	12 "
Intense Pyroxyline,	. . .	162 grains.
Bromide of Cadmium,	. . .	320 "
" Ammonium,	. . .	64 "

Add half the alcohol to all the ether and shake up with the pyroxyline. Throw the salts into a flask with the rest of the alcohol, and heat till dissolved. Add to the other portion, shake up well, and place in a warm, light place for three weeks. It will be better still in two or three months.

This collodion will require 16 grains to the ounce of nitrate of silver to sensitize it. I prefer, and always use, *fused* nitrate, and recommend it for all collodio-bromide work as much preferable to the crystallized.

Having measured out the quantity of collodion to be sensitized, weigh out 16 grains of very finely-powdered nitrate of silver to each ounce, throw it into a test-tube or flask, and pour over it alcohol of 95 per cent. in the proportion of 1 drachm to each 8 grains of nitrate, boil for a few minutes and the nitrate will dissolve. Pour it now in successive portions into the collodion, shaking up well after each. Shake about five minutes after the last portion is added, and every few times thereafter. Use twenty-four hours after sensitizing.

I have, at various times during the past years, used this method of introducing the

whole of the nitrate in actual solution. In the collodio-bromide process, as originally described by Messrs. Sayce and Bolton, it is not appropriate, because in that process the whole of the silver must not be in actual solution. But in this present acidified process it is desirable to have the silver altogether in solution: in fact this point makes an extremely wide difference between this process and any other that has been hitherto described.

In twenty or twenty-four hours after sensitizing, the mixture will be in condition to use. The difference of a few hours will not be important, but it is best not to exceed twenty-four. If kept too long there will be a disposition to fog in the shadows and a want of brilliancy in the whole picture. The high lights also will not have their details well marked. The filtering is best done by putting a piece of soft, clean sponge in the neck of a funnel, and cutting a small circular filter of close-woven linen. The linen used for making these filters should be boiled for an hour with very weak caustic potash or soda, then well washed in hot water (of course without soap) and dried. This plan of filtering will be found excellent for all sorts of photographic collodions. Before filtering, the collodio-bromide mixture should rest quiet for two or three hours after its last shaking.

For the preservative bath I recommend *exclusively* the two following, either of which give good results:

LITMUS PRESERVATIVE.

Cover a quarter of a pound of good litmus with hot water. Set a basin or plate over the bowl and put in a warm place for a day. Throw the paste upon a filter and pour on hot water till the filtrate amounts to a quart (the filtration is slow). Add a drachm of carbolic acid and the litmus solution keeps good indefinitely.

Litmus Solution, . . .	1½ ounces.
Water,	6 ounces.
Gum Arabic,	90 grains.
Sugar (Fine White), . .	90 "
Acetic Acid (No. 8, or Beaufoy's),	25 minims.

The above quantity makes a convenient bath for a 6½ x 8½ plate.

Throw the collodio-bromized plate into a pan of water until the greasy marks are gone, and then pass it into this bath, where it will remain, with occasional agitation, about ten minutes. The time is not important; five minutes will be sufficient; fifteen will do no harm.

TANNIN PRESERVATIVE.

I have lately got good results with tannin by reducing the proportion greatly below what is ordinarily recommended; by so reducing it I retain the beautiful variety of half-tint which is characteristic of gum, and which is greatly injured by using the ordinary quantity of tannin. I take—

Water,	7½ ounces.
Gum Arabic,	90 grains.
Sugar,	90 "
Tannin,	15 "

The tannin is here used 2 grains to the ounce. The washing of the plate is the same as above.

The litmus gives the softest and most sensitive plates, but needs an intenser cotton. The latter of the two preservatives will work well with a wider range of pyroxylin than the former, and give a brighter picture. The tannin is the easiest to succeed with, but the litmus, when well managed, undoubtedly gives the best negatives. In either case the negatives are very beautiful: better looking or better printing negatives cannot be got with the wet process.

DEVELOPMENT.

Prepare a 60-grain alcoholic solution of pyrogallie acid and a 40-grain solution of ordinary carbonate of ammonia in water.

To 5 ounces of water add half a drachm of the pyrogallie solution and a drachm of the carbonate ammonia. Agitate the pan to mix them well, raise one end and put in the plate in the ordinary way. No washing or application of alcohol is needed. When the image is pretty well out, but thin, add another drachm of the ammonia solution, and density will quickly come.

Bromide of potassium in the developer I have so far found wholly unnecessary. Nor will a redevelopment with silver be necessary unless, perhaps, when some great mistake has been made in the exposure, which,

with a good light, will be the same as for the wet process, but where the light is poor, or the contrasts great, the exposure will need to be prolonged.

The above directions will probably be found sufficient for working the process. I am still endeavoring to improve it, if possible: I judge that the method of keeping the residues over, which I have always found useful in the other modifications of collodio-bromide, in order to obtain dense opaque films, will be also valuable here, but have not as yet sufficiently tried it. I am also about to examine the applicability of *hydrobromic acid* with or without nitric acid, to the collodion, instead of hydrochloric. I scarcely expect, however, that it will prove advantageous, as the introduction of chloride of silver into the sensitive film is a decided advantage, as I have already proved in the case of chloride of copper. The aqua regia here recommended may be used either as a substitute for the chloride of copper before proposed by me, or in conjunction with it. Either way has given me excellent results.

In conclusion I may say that I have never found any photographic process so pleasant to work as this. The tedious washings after coating the plate, which consume so much time in some other processes, are here done away with, the plates are made easily, rapidly, and with great regularity. The two conditions of success are, to use a very intense cotton, and at the same time one which will make a very easy flowing collodion, for want of which latter quality, mottled skies may result. The plates should be fixed in very weak hyposulphite, never in cyanide.

PHILADELPHIA, March 12th, 1870.

THE WOODBURY PROCESS IN FRANCE.

THE great interest taken by many of our readers in the Woodbury process, a beautiful print by which appeared in our January issue, prompts us to make the following extracts from a letter by Mr. H. Baden Pritchard to the *Photographic Journal*, concerning the workings of the process in France.

The establishment located at Asnières, is under the direction of M. Rousselon (to whose courtesy I am much indebted), and at present capable of turning out 500,000 impressions per month. The various operations, with the exception of those relating to the preparation and exposure to light of the gelatine, are carried on in one vast and lofty workshop, partitioned off into inclosures. In the printing department five circular tables are fitted up, each furnished with six presses; one workman is sufficient for each table, who by causing the latter to revolve the sixth part of a circle, brings each press successively under his hands. A quantity of warm gelatinous ink is poured over the engraved plate, the paper is placed upon the ink, and the lid of the press is then shut down upon the paper. A short time is necessary to allow the ink to set; and by arranging half a dozen presses in the manner described, an interval elapses between the application of the ink and the removal of the finished print. Most of the presses employed are fitted with a hinged lid, fastened by means of a hasp; but Mr. Rousselon states the pressure exerted by this description of press is not always perfectly equal, and he contemplates, therefore, adopting a screw press, of which he has already some half dozen under trial. Moreover, so much work has he at present in hand that five more tables are required to be fitted up at once. In the majority of the presses two pictures, about cabinet-size, are printed at one operation, while the largest impression thrown off appeared to measure about a foot in length. The size of pictures to be produced depends solely upon the amount of pressure at one's disposal in pressing the gelatine matrix against the metal plate, and upon the size and evenness of the latter.

The obtaining of a perfectly uniform impression upon the metal plate is an operation of some difficulty, and has only been arrived at after great study. The metal used is an alloy of lead and antimony, or one might say, lead hardened with one per cent. of antimony. The gelatine mould is laid upon a steel plate, and the sheet of alloy placed thereon, the latter being confined on all sides so as to be incapable of spreading out and thus distorting and other-

wise injuring the engraving. Hydraulic pressure is then applied, and an impression obtained upon the alloy. M. Rousselon believes that an improvement will be effected by using a press recently invented by a French engineer, M. Deugoffe, in which the last squeezing action is developed by the introduction (by means of a fine screw) of a piston into a reservoir of oil, and the latter, being thus displaced, exerts a steady and uniform pressure. The operation of pumping, in the ordinary hydraulic machine, causes the latter to move by jerks; and particles of the metal becoming affected thereby after continual employment, uneven pressure is the result. The machine of M. Deugoffe is capable of exerting a pressure of 1000 kilogrammes on a surface two centimetres square, and is now employed in the Imperial Arsenals for the testing of cannon.

According to M. Rousselon's experience, the gelatine matrix will serve for the production of twelve engraved plates if care be exercised in their preparation.

The inks employed may be of any tint; but in making up the neutral colors it was found necessary to add always a slight quantity of blue pigment to counteract the yellowish tinge imparted by the other ingredients. There is now, however, no difficulty experienced in regard to the supply of the various tints. Sometimes a sepia tint is used, sometimes bistre, sometimes neutral; but in all cases, the more it is worked (that is to say, the more frequently the parings and droppings are employed), the better the material becomes.

The pictures produced by Messrs. Goupil & Co. are for the most part reproductions from paintings and cartons, more especially the former. The pictures are of small size, and, when mounted and finished, sent into the market to compete with ordinary photographs, without any special attention being called to the manner in which they have been produced; they simply bear the word "photoglyptique," and are sold entirely on their own apparent merits. No portraits were being executed; but that was simply, said Mr. Rousselon, because no order for that class of photograph was at present in hand. At my request, however, some

large heads were shown, displaying the various degrees of depth and vigor to be obtained; and these were, without exception, of the most promising character.

As regards the preparation of the gelatine mould, or matrix, but little difficulty is now experienced. Printing by means of direct rays only is necessary, the exposure required being generally about the same as that of a silver print. The gelatine employed must be of a certain quality and prepared with care. No photometer of any kind is employed, as the operators prefer to depend entirely upon their own judgment; and the subsequent operations of washing and hardening the film are so simple as hardly to necessitate special instruction in the matter.

In one division of the workshop, near the hydraulic presses, are stationed other machines used in facilitating the various manipulations. A small steam-engine, always ready to be set going, and capable of driving a shaft running along the workroom, is used for various purposes. A circular saw for cutting and trimming the engraved plate to the exact dimensions of the press, a lathe for turning purposes, and a large magneto-electric machine are all set in motion by this steam shaft. The electric machine is of the same description as those at present employed on the large Atlantic steamers for signaling purposes, and at forty centimetres distance gives a light about a fifth part as strong as that of the sun. By its aid engravings and paintings are frequently copied; but the pose is necessarily a somewhat lengthy one. Near to this machine was a powerful electrotyping apparatus, capable of furnishing in half an hour a copper deposit, or sheet, of considerable thickness, which, unlike in nature to the greater number of rapidly precipitated electrotypes, was of exceedingly fine quality and quite free from all trace of coarseness; this apparatus was employed by M. Rousselon in perfecting a modification of the Woodburytype, of which I will now say a few words before closing.

That gentleman's endeavors are directed to transforming, if possible, a photographic portrait into a copper-plate engraving capable of being printed by ordinary copper-plate printers with greasy ink; and this

aim he is sanguine of fulfilling with the aid of Woodburytype. A gelatine matrix is obtained in the ordinary manner; and to this is then imparted, by a secret method, a species of grain which is afterwards conveyed to a metal-plate. "Woodburytype, c'est la pression," said M. Rousselon, thus broadly defining the process; "and this I chiefly employ in elaborating my method." The specimens shown did not profess to be more than mere outlines, but they were still sufficient to warrant a continuation of the experimental research to which M. Rousselon has devoted himself.

Before leaving, the complete series of manipulations, with the exception of that of washing the gelatine, were successfully demonstrated. The negative, the gelatine matrix, the impressing of the image upon metal, the trimming and fitting up of the plate, the adjustment of the evenly polished surfaces in the press, the actual printing, the fixing, mounting, and finishing of the pictures, were all shown one after another; but of all these the most marvellous was certainly the conversion of the flat dull metal surface into an engraved plate of exquisite delicacy and finish, a proceeding which, here accomplished in minutes, in the ordinary course is often a matter of years.

OUR PICTURE.

THE beautiful view in Central Park, New York, which we present with our current number, is from negatives made by H. J. Newton, Esq., an amateur photographer of much note, and whose name is well known as one of our occasional contributors, by his *Tea Dry Process*, which he has already published herein, and with all late improvements, in *Photographic Mosaics* for 1870, page 103, to which please refer.

The negatives were made with a 6-inch Hemispherical Lens; time, with smallest opening, usually $1\frac{1}{2}$ minutes, using the developer half the strength published. When the full strength is used the time is one-half. The negatives were all made on the shadow side, which makes the sensitiveness of the plates the more remarkable.

The prints are made on Scovill Manufacturing Company's "Pearl" paper, and verify the excellence of that well-known and popular brand of paper. It has become a national stand-by, and well deserves it, for care is always had in its preparation.

Mr. A. H. Atwood, with Mr. J. Loeffler, 932 Broadway, New York, made the prints, and to his skill and good taste we are much indebted, for he was obliged to hurry them through all sorts of weather. He used Mr. Newton's sensitizing and toning solutions, which, although published before, we give below, as received from Mr. Atwood.

SENSITIZING SOLUTION.

Nitrate of Silver, . . .	6 ounces.
" Magnesium, . . .	4 "
" Ammonium, . . .	3 "
" Lead, . . .	$\frac{3}{4}$ ounce.
Water, . . .	80 ounces.
Liq. Ammonia Conc., . .	$1\frac{1}{2}$ drachms.

The hydrometer test for this should be from 58 to 65 grains, and varies with different samples of the nitrates. The strength may be easily maintained if you know where you start from, as very little of the nitrates are taken up except the silver. When the first test is made, mark what the strength is on the hydrometer. After sensitizing your paper test again, and you will know what silver has been used and how much to add until the original strength is attained. Mr. Atwood advises not to allow the solution to be used more than 10 grains less than the original strength. Another solution, mixed the same as the first, should be kept as a stock-solution from which to strengthen the one in use. Every two or three days add a few drops of liq. ammonia, in order to keep the solution alkaline. Fume with ammonia from 15 to 20 minutes in cold weather, and 5 in hot.

The ordinary hypo fixing bath is used, except that to each gallon of fixing solution add half an ounce of sal ammoniac. It gives more clearness to the prints.

The toning bath (Mr. Newton's) used was published in our last September issue, correctly and fully, except the last paragraph, which should read, viz.: If the tones are too warm, add borax to the stock-bottle No. 3 until the purple is dark enough to

suit the taste. Or, if a very warm reddish tone be preferred, increase the proportion of tungstate in stock-bottle No. 3. This toning bath should never be thrown away, as it improves by age. Mr. Newton has practised the above for three or four years, and says he could not be induced to change. Of his negatives Mr. Atwood says: "In all kinds of weather they print with remarkable evenness, and in the strongest light there is no danger of over-printing the shadows. The detail is as fine in one part as in the other, and I must say that, in ten years' experience in printing, I never had a finer lot of negatives to print from."

We have ourselves frequently been shown his negatives by Mr. Newton, and can testify to their excellence and uniform quality. This is the first dry-plate picture we have ever published, and certainly commends Mr. Newton's process, which he has worked at so industriously, very highly.

VOICES FROM THE CRAFT.

GERMON'S TEMPLE OF ART,
914 ARCH STREET.

MR. EDITOR: Having read your late editorial on Sarony's Photo-crayon Process, I immediately invested \$25 in it, and am glad to say that the process, purchased from the Messrs. Sarony Lambert, is all and even more than they really claim.

The results are beautiful in the extreme, and I consider it a great improvement in the art. Most artistic pictures can be gotten up at very small cost by this process.

From the printed *modus operandi*, and general formulas and general information sent me, with the fifty splendidly crayonized sheets, I experienced no trouble in producing the most artistic effects with ridiculously simple means.

Hoping that photographers working this beautiful remunerative process will take your advice, and keep the price of these pictures up,

I remain yours, respectfully,
W. L. GERMON.

P.S. By this process I have made a 11 x 14 from a carte negative, and finished the same in twenty seconds without solar

camera, and at the small cost of 50 cents. I send you this 11 x 14 for examination. G.

The print Mr. Germon sends us is certainly an exquisite production, and looks like a finely worked-up crayon drawing. It is a great credit, both to Mr. Germon and the process.—Ed. P. P.

EDITOR *Philadelphia Photographer*: I find a very simple and good plan of giving a tooth to varnished negatives, for the purpose of retouching with a pencil, in applying rosin with the finger; pulverize the rosin very fine, and rub on the parts to be worked. Should there be an excess of pencilling, it can be softened by going over the surface again and reworking.

To our meeting in June, *come all*. The craft will find our green and airy little Forest City on the lakes, to be a goodly spot for relaxation and brotherly confab.

I expect to see a large attendance, and hope to take them in—a group.

Photographically yours,

THOMAS T. SWEENEY.

CLEVELAND, O.

WRINKLES AND DODGES.

I SEE no end of plans to purify the printing bath, from both sides of the Atlantic. Now I am not troubled with this more than perhaps three times in a year; my bath is always clear and works well, and it seems strange why other baths should not do so too.

I use 50 grs. silver per oz., dissolve half in ammonia, and in making 20 oz. I take 15 water and 5 alcohol 95°, floating for 20 seconds to 40 seconds. If the bath gets dirty from carelessness in not adding silver, say an ounce for each quire, I use either Condie's fluid or the pure permanganate of potash, a few drops of a 10-grain solution and filter; this will make a *red* bath clear in a very short time, and not injure it. The bath I now am using was first made in 1864, only renewed in bulk ever since. It is *such* a bother to have a dirty bath after every sensitizing.

A. HENDERSON.

If you find the following simple way of producing a yellow light in the dark-room worthy of notice, please let the craft have it:

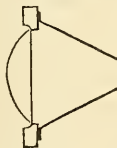
Get a tube of chrome yellow No. 2, a little drying oil, and an artist's brush, and give your lamp chimney a coat of this paint from the bottom to the middle, where it commences to narrow; when this is done, stipple it all over with the end of the brush. Light your lamp, and the paint will soon dry. If necessary, you can repeat the painting. I have used such a chimney for several months and it answers admirably.

A. FALKENSHIELD.

A very simple way to clean glass (new) or old negatives, is to use the nitric acid strong and no water. Afterwards wash well and set up to dry. Before using, polish with a piece of buckskin. No alcohol or rottenstone required. This method I have found to be the easiest and best, but do not give it as new.

T. P. VARLEY.

Not long since I had my solar camera catch fire from the lens and my building also came near being burned down. My condenser was broken as was the tube also, and nearly all my solar camera was destroyed. To prevent the repetition of such officiousness on the part of old Sol, I had a cone of sheet iron made which I placed under the condensing lens (see figure), so



that the sun could not get through sideways. I had a cover over the lens outside, but the wind blew it off. About 3 P.M., the sun got in position to do mischief and did it. I fortunately heard the fire in time to save losing my rooms entire.

A. E. TURNBULL.

TO REMOVE SILVER STAINS FROM THE FINGERS.—Wash the fingers with a solution of sulphate or chloride of zinc, made as saturated as possible and slightly acidulated. While the fingers are in the solution, rub the blackest parts with a rod of zinc, to facilitate the reduction. After the stains have disappeared, rinse them in plain water, and then wash well with soap and

water. By this plan the hands are made entirely clean, and no trace of poison left in the skin.—ABBÉ FORTIN in *Les Mondes*.

THE PHOTOGRAPHIC WORLD.

The Mittheilungen, News, &c., call attention to the Cleveland exhibition, and request photographers to send specimens.

SMALL medallion photographs are now used on note paper in conjunction with the monogram.

AN exhibition was held in Calcutta, India, in January; one in Manchester, England, last month; one begins in Paris, May 1st, and one in Cleveland, O., June 1st. Be getting ready for the latter.

"R.," the well-known photographer, took the cars for home the other night, and, wearied with a long day's work in posing hard subjects for pictures, fell into a gentle doze. At the first station a lady entered, and stopping at the vacant seat by "R.'s" side, said: "Can I sit here, sir?"

"Yes'm," said the half-aroused artist. "Full length or bust?"

IN England they are about establishing a national gallery of the photographs of all rogues that come to the hands of the police. Also, it is proposed to photograph all habitual drunkards, and supply each beer house with a copy, with a warning not to sell such any more liquor.

THE Mittheilungen says about the *Mosaics* for 1870 and *How to Paint Photographs in Water Colors*, by Ayres:

"Short, plain, and practical, these have the characteristics of most English and American works. The former is a worthy companion of Simpson's work, while the latter gives special and very lucidly written directions how to color photographs in water colors."

PROFESSOR VON MONCKHOVEN'S new process, for making enlargements with artificial light, is making the rounds of the Continental periodicals; it is everywhere highly spoken of, and seems in every respect a success. M. Romaine Talbot advertises a complete apparatus for making these enlargements for frs. 550 to frs. 600.

DR. DUCHENNE, of Boulogne, has made great use of photography in securing the expression of his subjects when under the influence of the galvanic battery. About fifty portraits are given in the *Journal of Psychological Medicine* for January, and are

very curious, indeed. Were it not for our useful art, none but those present, when the experiments were made, could see the effect of the treatment, but now any one can see and study them. Thus our art creeps up.

Editor's Table.

TO CLEVELAND.—The Secretaries are actively engaged in trying to secure reduced fares for those going to Cleveland, and have succeeded with several. Buy a Railroad Guide, and study out your route, then write for your order for a ticket. See list of Roads in our next issue.

OUR readers will observe that we print sixteen pages more than usual this month, and give them a splendid variety of interesting matter. Yet we have to lay over several articles. Please read all carefully, and consult our advertisements old and new.

MR. D. H. CUSSONS, Southport, England, has favored us with copies of his "Pocket Almanac for Photographers," for 1870, which is very handy and neatly printed.

ROBINSON'S PICTORIAL EFFECT IN PHOTOGRAPHY.—"It is the best work of the kind a photographer could have and study."—F. ULRICH, N. Y.

SIGNOR A. MONTAGNA will please accept our thanks for a copy of his little manual on carbon-printing and burning in enamels.

"HELIOS" is the title of the new photographic journal at Dresden, making the sixth in Germany. Herr Hermon Krone is the editor.

MR. N. W. PEASE, North Conway, N. H., has placed us under obligations for a number of very beautiful White Mountain stereographs. They are mainly chosen well as views, and the photography is also excellent.

The first premium for Eclipse photographs (with a medal), was awarded by the American Institute of New York to Prof. Morton, as head and representative of the Philadelphia party.

PHOTOGRAPHIC CRAYONS.—At least in our city, the Sarony photographic crayons seem destined to become very popular. All of our eminent men are working away at them, endeavoring to produce them well. Messrs. Suddards & Fennemore, 822 Arch Street, make a fine display

of them. Mr. Fennemore was the first to take hold of them here, and his pictures show what excellent hands can do with excellent means. They are sharp, bright, vigorous, and yet very soft and beautiful. No doubt the photographic crayons will come in for a share of the rivalry at the Cleveland Exhibition.

THE EXHIBITION BUILDING.—We have received from the Local Secretary, Mr. J. F. Ryder, Cleveland, two 12 x 16 views of the interior of the new Central Skating Rink, where it is proposed to hold our exhibition. The negatives were made by Mr. Thomas H. Johnson, and are very fine for interiors. The place chosen by Mr. Ryder will be a grand one for the Exhibition, and will afford every convenience of light, hall for meeting, committee rooms, etc., etc. It is large. Let it be filled.

FROM MESSRS. J. B. LIPPINCOTT & Co., publishers, Philadelphia, we have received copies of *Good Words* and *The Sunday Magazine*, two excellent monthly magazines reprinted from the English. Not only are they profusely illustrated with pictures, which are always interesting as studies, but each issue contains more or less of *life* pictures, which enable us to know more of the men whom we come in contact with. For example, in *Good Words* we have contributions concerning "Our Working People, and How They Live," "Devoted Lives," "A Visit to the Country of the Vaudois," etc., etc., and in the other, "Episodes in an Obscure Life," "Dealings with Samaritans," "The Italians in London," "The Struggle in Ferrara," etc., etc. Both magazines are ably edited, high-toned, and worthy. *Good Words* is \$2.75 and *The Sunday Magazine* \$3.50 per annum.

WE regret to learn that Mr. George Barker, of Niagara Falls, New York, was burned out on the 7th of February. His entire establishment was destroyed, though he succeeded in saving the most of his excellent and valuable stereoscopic negatives of the Falls. Phoenix-like, he

hopes soon to be under way again, though his losses were heavy.

Mr. Burnham, of Portland, Maine, was also burned out early in the year, and intends locating South we believe. We ought to have a photographer's insurance company, for nearly every photographer we hear of being burned out had little or no insurance. It is improvident and inexcusable.

RECEIVED from Mr. F. W. Hardy, Bangor, Me., some very excellent carte and cabinet photographs, displaying skill and taste. From Mr. W. H. Sipperly, Mechanicsville, N. Y., some snow forest views. From H. H. Bennett, Kilbourn City, Wis., some admirable stereographs of the "Dells of the Wisconsin River," and "Devil's Lake." From C. S. Cooper, Winoski Falls, Vt., views of factories, stores, &c., which are clean and good. From J. L. Knight, Topeka, Kansas, a large "photo-monogram" of the members of the State government. From F. Thorp, Bucyrus, Ohio, a *genre* picture, "Bringing Home the Apples," and others.

RECEIVED. — From C. Alfred Garret, West Chester, excellent cartes from retouched negatives; from W. L. Germon, Philadelphia, his business card, the letters of which are composed of the heads of his "subjects;" from Mr. A. Bogardus, New York, several fine cabinet-size photographs of great merit; from Mons. Romain Talbot, Paris, France, a translation in French, by himself, of "Mr. Sutton's Alkaline Process." In noticing, in Feb. number, a picture from Mr. W. H. Rhoads, Philadelphia, we said it was of a *rock*; it was of a *horse* which stood as *still* as a rock. "No Place Like Home," is the title of a cabinet-size genre picture by Mr. W. E. Bowman, Ottawa, Ill. The subject is a very demure-looking old gentleman, sitting under the shade of his "own vine and fig-tree," trying to catch flies, the aforesaid old gentleman being a toad, the aforesaid "vine," etc., being a toad-stool, and the catching instrument the tongue of the aforesaid toad.

MESSRS. WILSON, HOOD & Co., Philadelphia, have favored us, and every photographer whose address they can obtain, with a copy of *The Photographer's Reference Table*, which enables one to find: 1st. The distance required between the camera and the subject. 2d. The equivalent focus of a suitable lens. 3d. The measure of the image on the focussing screen. 4th. The angle measured by the included subject; which makes it a very useful thing to have. The table was got up by Mr. L. G. Bensa, in England, where it

is sold for two shillings. Messrs. Wilson, Hood & Co., present it free, and, if any have been missed, they will be glad to supply those desiring them, until their stock is exhausted.

We have received the following: A carte of the late George Peabody, from G. G. Johnson, Cleveland, O., the last one taken; some excellent cartes, enamelled, from Ross & Ormsby, Petaluma, Cal.; carte of Master Simpson (13 years old, 30 inches high), from Mr. Knowlton, Cumberland, Ohio; some fine cabinets from W. Watson, Detroit; cabinets from D. S. Camp, Hartford, Conn.; W. J. Baker, Buffalo, N. Y., and cartes and cabinets from Mr. E. L. Allen, 24 Temple Place, Boston. The latter are, most of them, from retouched negatives, very carefully done. Some of Mr. Allen's work attracted so much attention in Berlin that he received orders for 1000 copies from a dealer there.

We also have stereo slides from Mr. H. A. Kimball, Concord, N. H., that are very fine, some of them; others from S. J. Morrow, Yankton, Dakota Territory; and views of the interior of the Peabody Funeral Car, from Mr. G. K. Proctor, Salem, Mass.

RECEIVED from Messrs. Prescott & White, Hartford, Conn., a fine cabinet of a lady, a landscape (avenue of trees), and an interior view, all excellent. From Mr. T. T. Sweeney, Cleveland, O., several instantaneous lake views that are fine, and some whole plate pictures of rocks and reflections that are very pretty. From E. R. Curtiss, Madison, Wis., photographs of the State Senate group. From G. W. Carter, Lowville, N. Y., several very excellent carte and cabinet prints.

MR. JNO. A. SCHOLTEN, St. Louis, Mo., has favored us with a number of carte and cabinet photographs, that are remarkably and unusually fine. Mr. Scholten is master of a most excellent light, which he uses with wonderful effect. Some of his negatives are skilfully retouched. The whole lot is as fine a one as we have seen for many a day. His pictures of children are wonderful, and his posing artistic. The chemical and mechanical effects are also worthy of praise, and of being proud of.

MESSRS. NOTMAN & FRASER, Toronto, Canada, have favored us with a number of Cabinet photographs, which, in the posing and lighting of the model, show exquisite taste and artistic skill. Moreover, the master-touches of Mr. Fraser's pencil here and there, not only in the flesh, but in the high lights, draperies, and even the backgrounds, add greatly to their charm. They are capital studies, and make one think and wonder.

WE have a copy of our first volume for sale ; or a full set from the beginning.

MR. L. G. FROST, photographer, Sherburne, N. Y., died February 14th.

MR. CHAS. STAFFORD, Norwich, N. Y., lost his entire gallery, etc., by fire, March 9th.

ONE of our Salomon negatives has been broken, which will delay our promised picture until M. Salomon favors us with another negative.

THE Mercantile Library Company have favored us with a complimentary ticket for the year 1870.

WE have seen Mr. Lothrop's prize ferrotype, and it is an admirable example of work. The result of the Ferrotypers' Association is better work all around.

MR. W. F. OSLER, Chestnut Street, Philadelphia, has favored us with an admirable 11 x 14 Rembrandt photograph of Rev. J. F. Berg. D.D. It was made with a Steinheil lens. It is very effective and striking.

MR. F. THORP, Bucyrus, O., practises the very commendable plan of presenting each new year an example of some improvement in photography. This year the present was a print from a retouched negative.

IN Mr. Allen's formula for collodion, in our last, our correspondent neglected to mention a very important ingredient. No. 1 is right. No. 2 should be 320 grains of bromide of ammonium in 16 oz. of 95 per cent. alcohol, and when dissolved, add 800 grains of iodide of ammonium. When all is dissolved, add to No. 1, etc., etc. Mr. Allen says their Boston Society is doing a good work, and breaking down all old jealous feelings.

ANSWERS TO CORRESPONDENTS.

W. P. B.—We are glad your "old sore" has healed, and that you have "made up your mind" to take our Journal again. True, we did advise you to settle with the "bromide folks," but, had we not done so, we could not have fought the *extension* of the patent for you. Our advice *against* it, at the time, would have ruined our cause, and, instead of having to pay for it for two or three years, you would have had to pay for seven.

E. G. MAIRIE.—White lac, bleached lac, and white gum shellac are "all the same," though samples vary in quality. Good filtering paper will answer for filtering varnish, but the process is slow. Best plan is to make a lot a month beforehand, and give it plenty of time to filter and settle. If your varnish is "milky," probably your alcohol is not good.

"C." (MARIETTA, O.)—Fusing a bath does not remove iodo-nitrate of silver, and when you again iodized it, you over-saturated the solution. Consequently the surplus crystallized as you mention. Remedy: Dilute the bath with water to one-half its strength, and then evaporate it to its wonted strength.

H. BESONCON.—A plate of glass in the shield at the back of the ferro plate generally straightens it. The "Phenix" brand we know to be good.

ROBINSON & SHAW.—The reticulation or lines in your films are caused by using too much water to dissolve your bromides, and probably dirty water at that.

G. & R.—You will find several articles on printing on canvas in our Vol. V and last volume. See pages 190 and 194. Vol. V, and 22, 42, and 337, last volume; also on "Lantern Slides," page 276, last volume.

INGRAHAM BROS., in trying Mr. O'Neil's printing bath, found it precipitate considerably. This is right. Use the clear solution, and save the precipitate (chlor. of silver) to add when the solution needs clearing.

"J. W. D."—1. We will serve you as gladly as if you got our magazine directly from us. 2. We much prefer Roettger's.

E. D. ORMSBY.—Very fair for an early effort. You will improve as you go on.

JNO. C. GRAY.—1. Mr. Newton's tea process is good. See example herein. 2. Nitric acid will remove the image from ground porcelain glass, aided by scrubbing with a stiff tooth-brush.

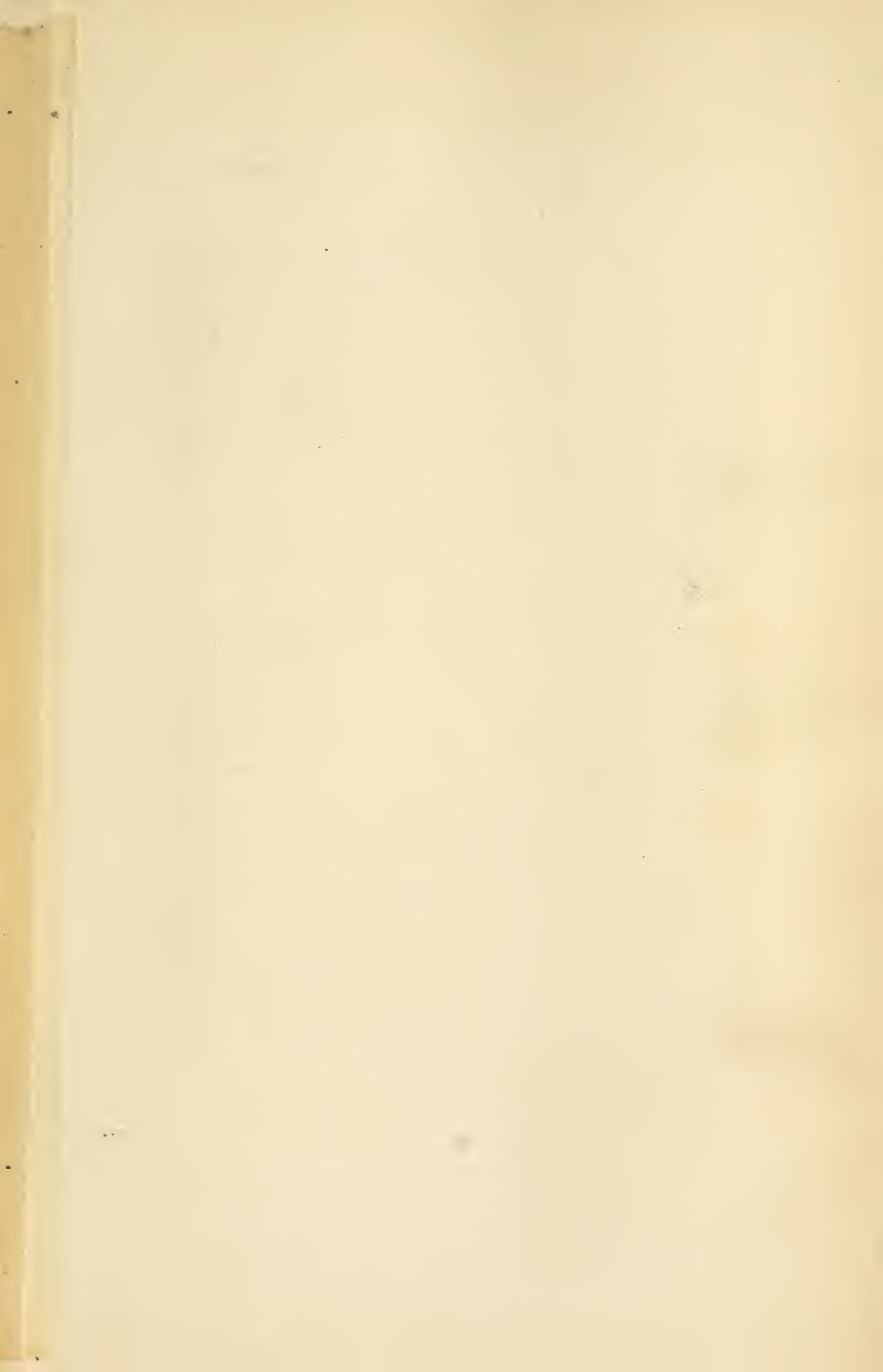
C. W. BROWN.—Neither Prof. Towler or Mr. Carbutt have patented their tents, and you are welcome to make either. Your suggestions are good. Decision has *not* been given in Shaw & Wilcox case.

E. A. WILSON.—If your collodion makes good *negatives*, adding a grain of bromide of cadmium to each ounce, and diluting it about one-third with ether and alcohol, will render it good for *ferrotypes*.

L. W. KEEN.—Probably your collodion is too neutral for your bath. Add tincture of iodine to it until it is a faint rose color, and your trouble will doubtless end.

J. B. L.—After a bath has been boiled down, the lines you describe are apt to appear on the plates for a day or two. Remedy: Move the plate about in a circular motion when first dipped.

GEO. B. SPOULE.—Water, lampblack, whitening, and glue size, mixed a proper shade, will answer for backgrounds.





FORTY-SEVEN & P. H.

BERLIN, 1881

Boston Public Library

T H E

Philadelphia Photographer.

Vol. VII.

MAY, 1870.

No. 77.

Entered, according to Act of Congress, in the year 1870,

By BENERMAN & WILSON,

In the Clerk's office of the District Court of the United States for the Eastern District of Pennsylvania.

THE EXHIBITION.

THE Executive Committee of the National Photographic Association ask the attention of exhibitors to the following rules, which are substantially the same as those of last year:

The Exhibition will open Tuesday, June 7th, 1870, at the Central Skating Rink, Cleveland, O. It is unnecessary to apply for space, as there will be ample for all.

The name and address of the exhibitor should be on every picture; and, if for sale, the price may be attached.

A list of articles must accompany each lot, and a duplicate list be sent per mail to the Local Secretary, stating number of packages.

All articles will be submitted to a jury for admission.

No articles shall be withdrawn until the close of the Exhibition.

Where there are several in one city or town who exhibit, it is suggested that when convenient they unite and put their articles in one package. It may be optional, however.

While there will be ample space, and it is desirable to cover it, care should be given to the *quality* of work sent. Send your best.

The following instructions by the Local Secretary will be insisted upon for the purpose of insuring system and good order:

Directions to Exhibitors.

Be liberal in quantity of pictures. We have a very large place for exhibition room and can accommodate all.

Take particular care in putting up your pictures; attach them with sticking-paper to the mats or passepartouts, that they do not get displaced in transportation. Much trouble will be avoided by that precaution.

Use good boxes for packing, and remember that the same boxes must be used for re-packing.

Fasten your frames into the boxes with screws and screw the covers on, that all may be taken apart without injury.

Affix to each picture or frame of pictures your name and address.

Have holes made for screw-eyes, and pack screw-eyes and cord with your pictures.

Very large frames may be sent without glass, and proper care will be taken to keep pictures clean and from injury.

Express or freight charges *must be pre-paid*.

Photographs and all articles for exhibition will be received from June 1st to 7th; would prefer, however, to receive 3d and 4th, if shippers can so arrange. Mark:

PHOTOGRAPHIC EXHIBITION,

Care J. F. Ryder,
Central Rink, Cleveland, O.

Send good photographs! SEND A LARGE

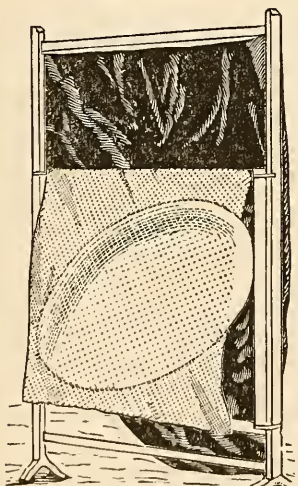
LOT OF GOOD PHOTOGRAPHS!! COME
YOURSELVES!!!

J. F. RYDER,
Local Secretary.

Arrangements have been effected with several railroad companies for excursion tickets at reduced rates, and also with express companies for the carriage of articles for exhibition. Full instructions are given on this score on another page, which those interested would do well to consult. Let every live photographer do as much as he can to contribute in giving success to the undertaking.

Executive Committee, { J. W. BLACK,
J. CREMER,
D. BENDANN,
W. C. NORTH,
J. F. RYDER,
E. L. WILSON.

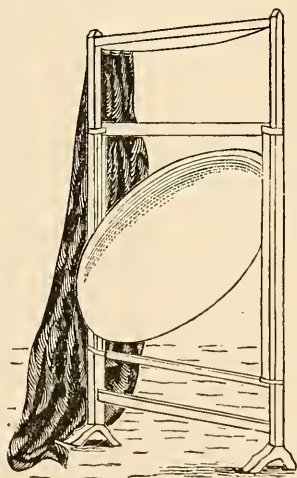
Griswold's Adjustable Concave Reflector.



I SEND photographs of a reflector which I have contrived, and am so well pleased with it that I thought I would submit it to your criticism, and make an item for the Journal. The reflector is concave, thirty-six inches in diameter, and made of one sheet of tin hammered into shape and afterwards planished. It swings on pivots within a frame just large enough to admit of adjusting it to any angle. This frame, carry-

ing the reflector, runs up and down like a window-sash, within another frame about six feet high, which stands on legs like any background-frame, thus enabling one to throw the light up or down as the case may be. On the back of the outer frame I have a black curtain of calico which can be drawn across the outer frame to cut off all reflection except from the reflector itself. When the light is strong I hang a piece of tarleton or other gauzy material over the face of the reflector to soften the light.

You would be surprised, upon using this contrivance, at the pretty effects that can be produced by it. I am working here by a small sky and side-light, and I find it indispensable. There are many useful effects which can be produced by it by using different colored gauze over the reflector. For instance, for a round, smooth light face and light hair, a buff color gives pretty shades, greater strength or contrast in the negative. For sharp features, sallow or tanned, a blue color is useful, etc., etc. (I will say that



this implement, if manufactured for sale, would be used by every operator that wished to improve his work, and especially by country operators having only small lights.) I forgot to say that the inner frame can be fastened at any point desired.

Yours, truly,

M. M. GRISWOLD.

LANCASTER, O.

Collodio-Bromide Manipulations.

BY M. CAREY LEA.

Sensitizing the Collodion.—I showed, in my remarks a month since, that it is possible to introduce the whole of the silver into the collodion in a state of solution; this has often been spoken of as a very desirable thing, but one, unfortunately, not practicable. It is, however, not only practicable but easy. 16 or 18 grains of nitrate of silver finely powdered will easily dissolve in a $\frac{1}{4}$ of an ounce of *boiling* alcohol of .815, and such alcohol is strong enough for the collodion. Of course, if the operator desires to use a still stronger alcohol for making the collodion, there is nothing to prevent him from doing so. In my own case, I use only alcohol of .815.

I take a large test-tube capable of holding several ounces, large enough, at least, that the alcohol shall only fill it about a third. I introduce the silver nitrate in fine powder and the alcohol. If the quantity is at all considerable, I put in all the nitrate and half the alcohol, boil it; as soon as it boils remove it from the flame, shake it well by a lateral movement, which, while it mixes up well, does not cause drops to spurt out; let settle for a few moments, and pour off the whole liquid into the collodion at once, leaving some undissolved nitrate at bottom. As soon as the hot solution is in the collodion, I shake up well for about a minute; I then add the rest of the alcohol to the residue in the tube, and repeat the operation. This time the remains of nitrate dissolve completely. This separating the alcohol into two parts is only for convenience; it is not necessary. In making experimental trials with quantities of an ounce or two of collodion, I do not divide the alcohol, but dissolve the whole of the nitrate by one boiling.

Management of the Mixture—Dense Films.—In the directions which I gave in my previous paper, I recommended to sensitize the collodion with 16 grains of nitrate of silver to the ounce, dissolved as already explained, and to use at the end of twenty-four hours. This mode of proceeding gave very transparent films, and, as these are never as sensitive as opaque ones, I have been studying

the conditions under which the latter can be obtained.

I have got much better results by increasing the proportion of silver to 18 grains. Large as this excess is, and all in actual solution when introduced into the collodion, the controlling power of the aqua regia is so remarkable that there is not the slightest tendency to fog. When this quantity of nitrate of silver is used, the time may also be considerably reduced. At the end of six or seven hours, if the mixture be vigorously shaken at intervals, a moderately dense film is got, but the condition of the mixture decidedly improves by keeping up to twelve or fifteen hours. From twelve to fifteen hours is what I recommend most. With 18 grains of nitrate of silver, 2 drops to the ounce, of aqua regia will be proper.

In a careful comparative trial between a film made with a collodion sensitized with 16 grains of nitrate of silver and kept twenty-four hours, and one sensitized with 18 grains and kept fifteen hours, it was judged that the latter was at least twice as sensitive. With equal exposure the development of the latter was effected in one-third or less time, and gave more detail by a good deal in the deep shadows. In fact, though there is no doubt that good pictures may be developed upon transparent collodio-bromide films, yet these latter are always greatly inferior in sensitiveness; this is another of the many points of advantage which the process here described has over that in which bromides are used in excess.

The mixture, after sensitizing, will require to be shaken well about four times at intervals before using, each shaking lasting from three to five minutes. After the last shaking the mixture should rest about an hour before filtering. It is a mistake to let it rest two or three hours after the last shaking and before using; such a course will sometimes lead to slight irregularities of the film, visible after the plate has set, by holding up to the light and examining closely. And in the last plates of the batch this may get to the extent of producing mottled films, the effect of which will be visible in the skies of the developed plates.

The best method of filtering is to put clean, fine sponge into the neck of the funnel, and to cut filters of fine, close linen stuff, freed from dressing or size by boiling with soda, either washing soda or very dilute caustic soda, and then washing thoroughly out.

The pouring off of the plate should never be returned to the same bottle, or, after a few plates, motes and knots will be found in the film. The best manipulation is as follows: provide two clean vials, filter the collodion mixture into one, then transfer the funnel and its filter to the other, and after coating the plate pour off into the funnel. The pourings off will thus filter into the second vial, and will be ready for use when the first vial is exhausted. If the contents of this second vial, when used for coating, show a tendency to mottle, thin them a little with concentrated ether. One source of mottling is the use of a too watery alcohol or ether; the evaporation from each plate leaves a residue more and more charged with water. The plates should have an edging of India-rubber dissolved in benzole, applied *before* the collodionizing.

Litmus as a Preservative.—When a preservative of gum and sugar is used, great sensitiveness is attained, but the negatives often want vigor and are too flat. It therefore becomes necessary to introduce a substance capable of giving a sufficiency of force and brilliancy. Many substances I have found capable of doing this; unfortunately almost all of them largely diminish the sensitiveness of the film.

Two substances, *litmus* and the well-known *tannin*, are capable of giving excellent results. For a time I scarcely did justice to tannin, and this because I used it in the heavy doses ordinarily recommended. But when it is kept down to 2 or 2½ grains per ounce of both, and used with six or eight times its weight of gum, it does very well, indeed. Nevertheless, after a great many most careful comparative trials, I feel constrained to give the preference to my own preservative, red litmus, and this for the following reasons:

1. Except in long exposures and under trying circumstances, it *completely* prevents

blurring, and always greatly diminishes it. The plates are, therefore, strikingly cleaner in the shadows:

2. In controlling contrasts it exhibits a moderate but distinct superiority over the tannin.

3. As to sensitiveness, the two are very near together, but, after very extended trials, I can say that, what advantage there is lies on the side of the litmus.

Persons, in trying litmus for the first time, will be very apt, when they proceed to develop, to think they are going to make a failure. The first effect of the alkaline solution upon the red plate is to turn the red litmus blue; it thus looks darker, and might be thought to be going to fog. As the plate lies in the developing bath, and the solution is made to flow to and fro over it, a bluish cloudiness appears in the liquid; this looks as if something were going wrong, but it is only the litmus washing out of the film. Sometimes, also, the solution penetrates the film unequally, and gives it a spotted or patchy look. All these indications mean absolutely nothing. When the plate has reached its proper development and is thrown into the fixing bath, it comes out brighter and cleaner than almost any other form of dry plate, and exhibits also the softness characteristic of this process.

The proportion of litmus directed in my previous paper may be doubled if desired. No diminution of sensitiveness results, as I have most carefully tested and proved. And as the plate is a darker red, the protection against blurring is increased proportionately.

Fixing.—The peculiarity of collodio-bromide plates, as respects fixing, has never been sufficiently pointed out. The bromide of silver dissolves out in the hyposulphite bath much more easily, and the image itself appears to be more easily attacked than the image on bromo-iodized plates. Hence, in the earlier days of the collodio-bromide process, it was advised to look to the alkaline development for a thin image only, and intensify with silver and pyro. But those who will use the methods I have described, will get all the density they want by the alkaline development alone; indeed, without care too much density may result.

And the reducing tendency of the fixing solution may be removed by using it very weak. After a number of trials I have found the best strength to be about one-sixtieth, 1 ounce of hyposulphite to 50 or 60 of water. Bromide of silver dissolves so much more easily than iodide that a collodio-bromide plate is fixed with this solution in the same time as an ordinary bromo-iodized film in a much stronger. The weak solution has so little action on the image that the plate may be left in over the time necessary for clearing without injury. I prefer, after using the fixing bath for twelve or fifteen plates, to reject it and pour in fresh. It is almost unnecessary to say that, with *no* plates should the fixing solution be used for a second set of plates after standing.

P. S.—The addition of the hot solution of nitrate of silver to the collodion is not attended with any inconvenience as might have been supposed; on the contrary, the formation of the bromide of silver is favored thereby. The whole mixture becomes tepid, at which temperature chemical decomposition advances of course more rapidly. In operating with considerable quantities it would, doubtless, be well to let the solution cool a little, but a little only, and to add it in two or more portions. But with small quantities, as above explained, this is unnecessary. The vial should be well closed with a well-fitting cork, which I find preferable to a glass-stopper, using, of course, a new one each time, and securing a very close fit.

THE SOLAR NEGATIVE PRIZE PICTURE.

BY JOHN C. BROWNE.

In a recent number of the *Philadelphia Photographer* a prize of a gold medal was offered by Mr. Albert Moore, of Philadelphia, for the best negative for enlarging in the solar camera, and, as a result, thirty-three negatives were offered in competition.

As one of the judges appointed by Mr. Moore, it gives me pleasure to attest to the excellence of a large number of them. It

is not desirable in this article to make a lengthy report of all the negatives presented, but a few remarks may be appropriate, giving a short criticism of the five best negatives selected.

The prize was awarded to Mr. V. W. Horton, of Brady's Gallery, New York city.

The subject was well chosen, in a young girl, sitting figure, gracefully posed, with exquisite arrangement of light and shadow. The dress of white or light color is admirably rendered, any tendency to excessive high light being toned down by the child resting her arms upon a table or chair over which some dark drapery had been thrown. The eyes are beautifully reproduced, giving the soft dreamy effect that children so often have when deeply interested in an attractive story. The negative is upon one-half size glass, unvarnished, clean, forcible, sharp, well-timed, and exceedingly brilliant; a little too transparent to make a first-class contact print, but exactly suited for a solar enlargement. Mr. Horton may justly be proud of his success in securing the prize,

Mr. Oliver B. DeMorat, Philadelphia, a vignette head and bust of a lady, well arranged and skilfully lighted. Chemical manipulation first-rate. Size of picture, two on 4-4 plate.

Mr. T. M. Saurman, Norristown, Pa., a pleasing picture of a lad, vignette head, excellent chemical work, clean, well-timed, and sharp negative, one-half size.

Mr. Charles Stafford, Norwich, New York, vignette head of a lady, nicely arranged, and well lighted. This negative appears to be a little too dense for the purpose intended. Clean and forcible negative, one-quarter size.

Mr. P. B. Jones, Davenport, Iowa, a fine picture of a male subject, negative one-half size, sharp, clean, and effective.

All of the prints were made of uniform dimensions, about the size of life, and printed upon Clemon's arrowroot paper, 18 x 22. In tone, sharpness, and general effect they compare very favorably with contact pictures, where the attempt is made to produce portraits of the size of life direct in the camera. In fact, these solar enlargements are better pictures than the majority

of life-size contact prints that I have examined.

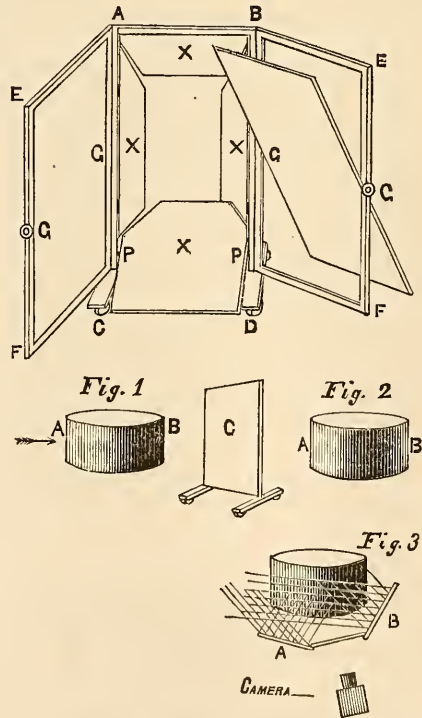
To Mr. Albert Moore deservedly belongs a great deal of credit for his skill and enterprise in developing this very important branch of photography. The proof of his success will be exhibited at the annual meeting of the National Photographic Association, in June next, at Cleveland, Ohio, so that all may have an opportunity of seeing what wonderful results can be obtained by enlarging small negatives of $\frac{1}{4}$, $\frac{1}{2}$, and 4-4 size in the solar camera. It is but fair, while speaking in praise of Mr. Moore's results, to give a proper share of credit to his assistant, Mr. William L. Shoemaker, as all of the printing and toning is done by him. I judge, from his success and long experience, that few can excel his practical knowledge on this subject. It is no easy work to manage a dozen solar cameras on a bright day, for each requires to be adjusted to the position of the sun about once in a minute; and the focussing of the image from the negative upon the sensitive paper, together with a knowledge of when to stop printing, are somewhat difficult lessons to learn. Upon a clear day in the spring, with the sun shining brightly, the duty of attending a number of solar cameras requires a lively exhibition of skill and agility upon the part of the operator. In hazy weather the time of exposure is very much lengthened, but generally thirty to fifty minutes' exposure to a bright sun will be sufficient.

In preparing negatives for enlargement, do not undertime the picture, but expose fully, and rather under-develop. The details in the shadows will then be rendered more effective, with less liability to fog, by attempting to force detail out of an under-exposed picture. The chemicals must be in fine working order, *perfectly free from fog*, and calculated to give a good, forcible negative, not so dense, however, as is required for contact printing. Difference of opinion exists as to the advisability of using hypo or cyanide for fixing, some contending that cyanide is too strong in its action, cutting away the weaker parts of the picture; while others claim that hypo is not active enough. My preference is for cyanide of

medium strength. But if hypo is used it should be fresh. The quality of first importance in the negative must be *sharpness*. If in a portrait the face, hair, or whiskers are not perfectly defined, it is useless to expect that a print enlarged to life-size will be satisfactory.

Recently, Mr. Moore has turned his attention to the double printing of landscape negatives in the solar camera, whereby the pleasing effect of natural clouds in the picture is produced by the use of a second negative.

KURTZ'S PATENT "REMBRANDT COUNTER-REFLECTOR."



IN making "Rembrandt" pictures the usual routine of operations is abandoned and reversed. Instead of at the side of the subject nearest the camera, the main light comes from *behind* the sitter, as it were, or falls upon the side of the subject *from* the camera, the side toward the camera being in shadow. To get detail in this shadowed

side it is necessary to reflect *some* light upon it, and to avoid a multiplicity of screens, reflectors, etc., Mr. Kurtz has contrived the apparatus below described.

A B C D represents a light frame of wood, about six feet high and three and a half feet wide. E F E F are two doors or wings turning on pivots at the points A and B, and also on two other pivots at G G G G, consequently giving a universal movement. X X X X are four inner wings moving on hinges on the frame, whereby you may enlarge or decrease the size of the opening, the lower wing moving on two pivots at P P.

All this is lined on the back with strong paper and black muslin, and on the front with pure white paper. This counter-reflector is patented and solely manufactured by Mr. Henry Kurtz, New York.

Its application may be better understood by the accompanying drawings.

Let A B, Fig. 1, represent a block of wood, and the light shining on it in the direction of the arrow—any attempt to photograph this in its present state of illumination would be impossible. The dark shadow at B would be devoid of all details, and the high light at A would be too intense. Upon bringing up the reflector at C, the effect is to drive, as it were, the shadow back again towards A, producing an unnatural lighting, as shown in Fig. 2, causing a squinty appearance in the sitter, caused by being *raked between two fires*. Now the counter-reflector has the effect of doing away with this completely. See Fig. 3. It throws the light in the direction of the lines, and we have the *natural* effect of No. 1, only greatly subdued, with perfectly transparent shadows, offering no strong nor harsh contrasts against the high light; A, as it were *counter-reflecting* the reflection of B, thus preventing that shadow which otherwise would have hung over the centre.

This arrangement also serves a good purpose when making pictures in the usual way, and is specially useful where there is no side-light, in scattering the shadows that are apt to occur in such cases under the eyes, nose, and chin, and in relieving the frowns of unwilling sitters.

ONE HUNDRED DAYS IN A FOG.*

BY ELBERT ANDERSON,
Operator, W. Kurtz's Gallery.

(Continued from page 108.)

Twenty-sixth day.—Iodide of cadmium increases the intensity of the collodion. (*Hardwich's Chemistry*, page 246.)

Twenty-seventh day.—When the negative comes up with too much intensity, add iodide of cadmium to the collodion. (*Devine's Practice*, page 55.)

Twenty-eighth day.—Zigzag lines are caused by a lack of harmony between the bath and the collodion. (E. L. Wilson, *Mosaics*, 1869, page 59.)

Twenty-ninth day.—The upper part of the plate must be examined for zigzag lines; characteristic of a film which had become too dry before immersion. (*Hardwich's Chemistry*, 7th Ed., page 419.)

Thirtieth day.—Streaks like flashes of lightning, with a dozen zigzags to the inch—from applying blotting-paper to the back of the negative. (M. Carey Lea, *Mosaics*, 1867, page 15.)

Thirty-first day.—During exposure the bath solution drains down to the edge of the plate, and rises again by capillary attraction, giving rise to streaks. Remedy: attach a piece of blotting-paper to the edge of the plate. (*Lea's Manual*, page 243.)

Thirty-second day.—Always filter your bath after each day's work. (E. L. Wilson, *Mosaics*, 1867, page 141.)

Thirty-third day.—Neither should the bath be filtered after it has once been put into use. (*Devine's Practice*, page 36.)

Thirty-fourth day.—After each day's work, make it a rule to filter your bath. (J. C. Browne, *Mosaics*, 1870, page 29.)

Thirty-fifth day.—Do not filter your bath too much. (*Illustrated Photographer*.)

Thirty-sixth day.—It is an advantage to leave the bath in the trough always, that it

* This subject will be continued, with correspondence, etc., preparatory to the entire practice, formulæ, etc., at Mr. Kurtz's gallery, entitled *Photo Dialogues, a sequel to One Hundred Days*, etc.—Ed.

may settle down and clear itself after the day's work is done. (*Hardwich's Chemistry*, page 415.)

Thirty-seventh day.—The bath ought to be filtered every evening. (*Silver Sunbeam*, page 113.)

Thirty-eighth day.—Never adopt the common but wasteful plan of iodizing a bath by dipping a collodionized plate in it, and allowing it to lie until the iodide is dissolved. (*Aliquis, Mosaics*, 1869, page 114.)

Thirty-ninth day.—Coat a plate and leave it in the bath all night. (*Illustrated Photographer*.)

Fortieth day.—Make the bath as follows: * * * then add to it about a drachm of bromiodized collodion. (*Towler's Almanack*, 1867, page 76.)

Forty-first day.—It is a bad plan to add collodion to a bath for the purpose of iodizing it. (E. L. Wilson, *Mosaics*, 1870, page 143.)

Forty-second day.—The bath must be saturated with iodide of silver. (*Hardwich's Chemistry*, page 393.)

Forty-third day.—The bath may be used without iodizing, if the plates be taken out as soon as smoothly coated. (*Devine's Practice*, page 30.)

Forty-fourth day.—It is therefore necessary to iodize the bath to saturation, with iodide of silver. (*Waldack's Treatise*, p. 62.)

Forty-fifth day.—Nearly all the works on photography give directions for iodizing the bath to saturation; for negative baths, however, such a method of preparation is totally wrong. (*Devine's Practice*, page 31.)

Forty-sixth day.—A bath not saturated with iodide of silver will produce unequal results. (E. L. Wilson, *Mosaics*, 1870, page 142.)

Forty-seventh day.—If the bath be saturated at the outset, it will precipitate crystals of iodide of silver on the plate, and wholly spoil the negative. (*Devine's Practice*, page 31.)

Forty-eighth day.—When the crystals of nitrate of silver are dissolved, coat a plate and leave it in the bath all night. (*Sutton's Collodion Process*, page 40.)

Forty-ninth day.—Every plate must be

removed from the bath as soon as it is coated, that the silver solution may be preserved as long as possible below the point of saturation. (*Devine's Practice*, page 33.)

Fiftieth day.—When the bath is in perfect order, no harm can result from leaving the plate in it a quarter of an hour or more. (*Hardwich's Chemistry*, 7th Ed., page 417.)

Fifty-first day.—The plate should never be left in the bath longer than necessary. (*Lea's Manual*.)

Fifty-second day.—When the iodide of silver, previously dissolved in the bath, crystallizes upon the film, leave a plate in the solution all night, that the excess of iodide of silver may gradually crystallize upon its surface and so be removed. (*Hardwich's Chemistry*, 7th Ed., page 521.)

Fifty-third day.—I ascertained that iodide of silver is more soluble in a cold solution than in a warm one. (Dr. H. Vogel, p. 89.)

Fifty-fourth day.—In this case the iodide of silver which is precipitated by the solution becoming cold, is redissolved as the temperature rises. (*Devine's Practice*, p. 32.)

Fifty-fifth day.—Sunning of the bath is one of the best means of purifying it. (*Le Moniteur de la Photographie*.)

Fifty-sixth day.—I cannot, for my part, see what effect sunning has upon the organic matter with which the bath is charged. (*Aliquis, Mosaics*, 1869, page 118.)

Fifty-seventh day.—It is advisable to expose the bath to the rays of the sun as often as possible. (*Silver Sunbeam*, page 112.)

Fifty-eighth day.—Sunning the old solution may be a very good plan, but I never found any marked benefits from it. (*Aliquis, Mosaics*, 1869, page 118.)

Fifty-ninth day.—The solution may be prepared some days before using, and allowed to stand in the light. (*Devine's Practice*, page 43.)

Sixtieth day.—A bath that has stood for a week exposed to sunlight, has proved as incurable as one doctored without sunning at all. (*Aliquis, Mosaics*, 1869, page 118.)

Sixty-first day.—It has, however, been justly remarked that in diluting the bath, the disordered bath must be poured into the

water and not the reverse. (M. C. Lea, *Mosaics*, 1867, page 10.) WHY?

Sixty-second day.—Pour the old bath into a clean bottle, and add rain water. (E. L. Wilson, *Mosaics*, 1868, page 102.)

Sixty-third day.—When, in the course of time, the bath becomes saturated with iodide of silver, add crystals of nitrate of silver. (*Humphrey's Journal*, page 26.)

Sixty-fourth day.—All works on photography recommend the replenishment of the bath with crystals of nitrate of silver. This method we strongly protest against; and advise the operator never to strengthen his bath until it is thoroughly renovated and made over. (*Devine's Practice*, page 36.)

Sixty-fifth day.—It is advisable to keep up the strength of the bath from day to day. (*Towler's Almanac*, page 88.)

Sixty-sixth day.—It will always be found unwise to add new silver to an old bath. (Harvey, Reynolds & Foster, *Text Book of Photography*, page 23.)

Sixty-seventh day.—Better make a new bath than repair the old one, since nothing satisfactory will be likely to be got from it. (R. D. Ewing, *Mosaics*, 1870, page 54.)

Sixty-eighth day.—As long as you can, by purging, get an old bath to do duty, never make a new one. (Aliquis, *Mosaics*, 1870.)

Sixty-ninth day.—As soon as the bath ceases to give satisfactory negatives, there is no alternative but to make a new one. (*Mosaics*, 1867.)

Seventieth day.—The best way to get rid of all volatile matter in the bath is distillation. [!] (*Silver Sunbeam*, page 112.)

Seventy-first day.—There are no means of abstracting the water from collodion without injuring the collodion itself. (*Humphrey's Journal*, page 59.)

Seventy-second day.—When there is too much water in the collodion, it may be removed by putting some pieces of gelatine into it; this abstracts the water. (*Lea's Manual*, page 236.)

Seventy-third day.—A strong developer favors thinness, a weak developer favors intensity. (R. D. Ewing, *Mosaics*, 1870, p. 56.)

Seventy-fourth day.—A strong developer is likely to force up the high lights to complete opacity. (C. W. Hull, *Mosaics*, 1870.)

Seventy-fifth day.—We should apply a strong developer to diminish contrast. (*Lea's Manual*, page 115.)

Seventy-sixth day.—In developing, hold the plate absolutely still; by so doing the detail is better obtained. (C. W. Hull, *Mosaics*, 1870, page 77.)

Seventy-seventh day.—As the development goes on, the operator inclines the plate in different directions, so as to cause the developer to keep in a state of constant motion. (*Lea's Manual*, page 33.)

Seventy-eighth day.—Use it (the developer) with a lavish hand—never mind the silver washing off. (E. Dunmore, *Mosaics*, 1870.)

Seventy-ninth day.—The developer becomes mixed on the surface of the plate with the bath solution, if a portion is wasted by washing over, the image will come out less strong. (*Lea's Manual*, page 32.)

Eightieth day.—The solution of sulphate of iron becomes red by keeping; the writer is in favor of a newly mixed solution. (*Hardwich's Chemistry*, page 395.)

Eighty-first day.—The older the developer becomes it grows reddish. This reddening is rather beneficial than otherwise. (*Lea's Manual*, page 26.)

Eighty-second day.—When the development is conducted with sulphate of iron, the negative has seldom sufficient intensity. (*Hardwich's Chemistry*, page 455.)

Eighty-third day.—The operator should aim to get his negatives intense enough after one development with iron. There will generally be no difficulty in accomplishing this object. (*Devine's Practice*, page 47.)

Eighty-fourth day.—A great many dark-rooms are lighted with yellow glass. We recommend the operator to use a gas or lamp-light. (*Devine's Practice*, page 13.)

Eighty-fifth day.—Orange glass is all that is needed for the dark-room. (*Silver Sunbeam*, page 47.)

Eighty-sixth day.—I know that many men think diffused-light printing the best, but I believe that I am supported by all who know, that sunlight printing is theoretically as well as practically the best. (Nelson K. Cherill, *Mosaics*, 1867, page 58.)

Eighty-seventh day.—Printing may be done either in the direct rays of the sun or in diffused light; the choice between the two will depend upon the nature of the negative. (*Lea's Manual*, page 212.)

Eighty-eighth day.—When a collodion gives an impression in which too much contrast exists, a small quantity of bromide will lessen the contrast. (*Waldack's Treatise*, page 46.)

Eighty-ninth day.—Some careful experiments made by the writer brought him to the conclusion that bromide tended fully as much, perhaps more, to hardness and contrasts than iodides. (*Lea's Manual*, p. 120.)

Ninetieth day.—If the lights are too intense, more bromide must be added. (*Hardwich's Chemistry*, page 260.)

Ninety-first day.—We confidently assert that bromide has no effect whatever in reducing the contrast of the negative. (*Devine's Practice*, page 24.)

Ninety-second day.—It must be allowed, the addition of a bromide to negative collodion impairs its sensitiveness. (*Hardwich's Chemistry*, page 271.)

Ninety-third day.—The effect of bromide is simply to reduce the time of exposure in the camera. (*Devine's Practice*, page 24.)

Ninety-fourth day.—The effect of bromide is to reduce intensity and contrast. (*Waldack's Treatise*, page 40.)

Ninety-fifth day.—For the purposes of copying, I would invariably use the full blaze of the sun; some artists pretend that this system is false. (*Silver Sunbeam*, p. 162.)

Ninety-sixth day.—In copying engravings, all that is required is a simply iodized collodion without any bromide. (*Silver Sunbeam*, page 28.)

Ninety-seventh day.—It is an entire mistake to suppose this (copying) is best accomplished by the use of a collodion containing little or no bromide; as line engravings require a small stop, the light is always weak, consequently bromide is necessary. (*Lea's Manual*, page 187.)

Ninety-eighth day.—We certainly prefer an intense negative to a thin one. (*Towler's Almanac*, 1867.)

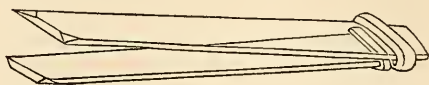
Ninety-ninth day.—A good negative should be thin and full of detail. (*Text Book of Photography*, page 18.)

One hundredth day.—We do not think there is any advantage of using nitrate of uranium in the toning bath. (*Humphrey's Journal*, page 4.) When black tones are desired, add nitrate of uranium to the toning bath. (*Mosaics*, 1870.)

GLASS FORCEPS.

BY JOHN M. BLAKE.

GLASS forceps will be found useful during the operations of silver printing. They are quite efficient, and have the advantage over whalebone of being easy to clean. They can be easily and cheaply constructed, as follows: take two equal strips of ordinary sheet-glass; these may be four inches long and half an inch broad. The sharp edges must first be taken off, then place them together and crowd a piece of rubber-tube, about half an inch long, over the two at one end.



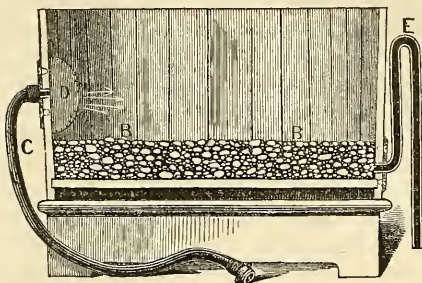
Next slide a shorter piece of tube down the length of one of the pieces of glass, until it reaches the first piece of rubber. The second rubber band serves to keep the two blades separate, while the elasticity of the first makes resistance as the blades are pressed together by the hand in grasping an object. When this pressure is removed they will separate half an inch at the end. It is best to bring the lower ends of the glass strips to an edge, or to bevel off the corners on a grindstone, so that they will readily slide under a sheet of paper which lies on the bottom of a dish. Broad blades are advantageous when lifting large sheets of paper liable to tear. A pair, one inch by seven were found quite convenient.

If you think you can improve by making a second sitting, by all means do it before your subject leaves your room.

BOOKHOUT'S WASHING TANK.

I WILL give you a description of my washing apparatus. Of course I think it better than any that I have tried.

A



Let A represent a tub, as large as necessary, filled to the depth of five inches with white pebbles, B B; C, rubber hose (with a coupling), for the supply of water, and E a syphon. Of course the syphon must be of sufficient capacity to carry more water than the supply, which can be regulated by the water-cock. D represents a fan to throw the water against the side of the tub, thus giving it a circular motion. You will see that, by means of the pebbles the prints are drained pretty thoroughly every fifteen minutes. I have tried perforated zinc: the result, after a few weeks use, was white spots on the prints. There was no mistake about the cause. I varnished it and had none, but as soon as the varnish wore off they appeared again. I tried this for over a year. A net made of twine gave me yellow spots (hypo). Wooden slats also gave me hypo spots—but the pebbles are the thing, easily washed and unobjectionable in every way. I use WHITE pebbles because I can get them easily, and prefer them on account of their hardness.

I have used this over a year. My work is mostly commercial, and I make a great many pictures, and, notwithstanding my tub sometimes has a great deal of paper in it, it always comes out clean, which is more than I can say of anything that I have before used.

E. BOOKHOUT,

1 & 3 Broadway, Williamsburg, N. Y.
March 23d, 1870.

We consider Mr. Bookhout's method a most excellent one, and well worthy of a

trial. He gives the idea to the trade freely, without patenting it, and, moreover, has generously supplied the very excellent engraving, which accompanies his paper, from his own large engraving and photographing establishment.

Stereographs on Transparent, Tinted, &c., Paper.

BY PROF. J. TOWLER, M.D.

IT is not yet a settled matter, I perceive, what must be the width of the stereograph, for almost every photographer selects his own size, aiming, however, nearly in every case to make it as large as possible. This uncertainty about the size, and the innate tendency to make magnitude the sole aim, must arise from ignorance of the requirements in the case; but this ignorance cannot be charged to the meagreness of instruction on the subject. We have repeatedly given our views about this matter, which may be expressed in a few words: "The width of the stereograph must be equal to the distance between the centres of the two eyes."

But since this distance is a variable quantity, bordering on two inches and a half, more or less, and seldom exceeding two inches and three-quarters, we may assume, without any great error, the last distance, which will at the same time accommodate those numerous advocates for large productions. Do not think we wish to be dictatorial in this assumption, for, if all the rest will preferably assume two inches and a half for the width of the stereograph, we shall certainly join in the phalanx, and with joy too, because this distance is nearer what it ought to be. This matter might be settled at the next great National gathering at Cleveland, at least for Americans, subject, of course, to revision in accordance with the intelligent views of Europeans. We ought to have a standard.

Having assumed two inches and three-quarters for our standard width, we prepare slips of paper of the following dimensions: eleven inches and one-tenth in length by three inches in width; these are cut with clean edges and square corners from the sen-

sitized sheet, each sheet thus yielding twenty-four stereographs.

The lenses on the camera are fixed in their place, also, at the standard distance of two inches and three-quarters from edge to edge or from centre to centre; and the septum in the camera, which divides it into two halves, is so adjusted as to bring the two pictures into sharp apposition in the middle, without any blank space between them and without overlapping each other. This adjustment is easily made. There is great economy of time and material by attending to these arrangements at the outset.

The object of preparing the rectangular slips of paper above mentioned is to be enabled to print the stereographs in such a way as to require no cutting afterwards, and, consequently, no transposition. We are indebted to an Englishman for this discovery, and I thank him heartily for it. Although it is now an old dodge, it will be new to many of our younger practitioners.

Each slip is folded back exactly in the middle, so that the corners are accurately in apposition, the sensitized film being outwards. The slip is now opened again and placed on a clean sheet of paper, the film being downwards. Each half is now folded back on itself, so that the opposite ones meet accurately on the middle crease. A piece of black paper, five and a half inches long by three wide, is inserted between the folds. The paper is now ready to be placed on the negative. The middle crease of the paper corresponds to the middle line between the two pictures on the negative; place the sensitive paper, therefore, on the middle of the negative, that is, at an equal distance from either edge and with the centre lines accurately overlying each other. Print one side, and then the paper is turned round and placed as before; the other side is then printed. In this way two stereographs are printed on the same sheet; separate them by cutting with a sharp, straight cut through the central line. No transposition is needed, as you will readily see.

The use of the piece of black paper between the folds of the sensitized slip, is to prevent the light from acting on the film behind.

Care is required in changing the paper,

as soon as one side is printed, round to the opposite side so as to bring the upper edge of the slip to the same place which it occupied before, and at the same to make the central line of the negative and that of the sensitive paper coincide. There is no difficulty in doing this, but care is necessary to see that it is done.

The washing, toning, and fixing require no further instruction, and, as the prints are already cut out to the proper size, nothing remains to be done but to mount them in the usual way.

But my principal design in this article is to show you how to make *transparent paper* stereographs. For this purpose I use the *heaviest* plain paper, neither salted nor albumenized. This paper I salt as indicated in some of my previous articles, that is, in the following bath:

Water,	8 ounces.
Chloride of Ammonium,	40 grains.
Gelatine,	10 "
Citric Acid,	40 "
Carbonate of Soda,	50 "

I print by development, because I can get better tones for the purpose by this process. The silver bath I have slightly changed since I wrote last on this subject, substituting nitric acid in a great measure for tartaric acid, and probably I shall dispense with the latter entirely. The solution at present is as follows:

Nitrate of Silver,	4 drachms.
Water,	8 ounces.
Nitric Acid (spec. gr. 1.2),	1 drachm.
Tartaric Acid,	5 grains.

Float the paper on this bath for about one minute, then hang up and dry. Expose until the picture is visible; a longer exposure will do no harm. In the present case, where half the picture is printed separately, the exposure of the two sides must be timed by the watch: in sunlight, one to three minutes each; in a dull, diffused light, from five to eight or ten minutes each.

The mode of development I have changed slightly. Each print, previous to development, is soaked simply in water.

As soon as the paper is moist all through, it is placed on a *clean* piece of glass, a little larger than the print, and the latter is then

moved over the flame of a spirit-lamp, the developer having been previously poured upon the surface of the exposed paper. The developer remains the same, that is:

Solution of Gallic Acid, (2
grains to the ounce), . . . 4 drachms.
Acetate of Lead (30 grains
to the ounce), . . . 5 drops.
Acetic Acid, enough to clean the milky
precipitate.

The development is soon performed, to any amount of opacity, without injuring the whites. Wash the print on both sides under the tap, and then immerse it in the hyposulphite of soda solution, containing 1 grain of chloride of gold to 4 ounces of the concentrated fixing solution. The latter can be used several times, taking care to add more hyposulphite of soda from time to time. Wash the prints well and then dry them, first removing the excess of moisture between folds of blotting-paper, and afterwards by exposure to the air. Trim the edges of the prints if necessary, dry them thoroughly near the fire, and then, placing each print on a piece of good card-board, pass it two or three times through the rolling machine. This operation flattens the paper completely, which is quite necessary for the subsequent operation.

Our next operation consists in making the paper transparent, and, at the same time, in causing it to adhere to a piece of glass. For this purpose we require a small *iron* table, flat on the upper surface, on which is laid a sheet of paper. (The plate may be eight by ten inches.) Beneath the table place two or three *small* spirit lamps, so as to warm the iron to the proper temperature. On the paper place the cleaned glass which is intended to receive the print. The following balsam is required:

Canada Balsam, . . . 5 ounces.
Paraffine, . . . 2 "
Gum Elemi, . . . 2 drachms.

Melt them together and keep in stock for future use. Two or three small pieces of this balsam are placed upon the glass, and are spread out, as it melts, with a clean spatula, so as to cover the glass completely. The print (perfectly dry) is now laid upon

the balsam, the print side being next to the glass. More balsam is smeared over the back of the paper, which is carefully pressed down. Continue a gentle heat. In about twenty minutes the print will become quite transparent. Rub off all excess of balsam from the back of the print and the front of the plate, and adjust the print to its position. See that all bubbles are removed by pressure. Clean the front of the glass plate with turpentine.

All that now remains to be done is to cover the front and back with the proper shields of black paper, ornamented with gold or otherwise. The transparency thus produced is very beautiful, and requires no further protection; nevertheless, a thin piece of ground-glass is no detriment to it; it is sometimes an improvement. Of course, such transparencies are to be viewed by transmitted light. Landscapes mounted on squares of glass and set in our window-frames produce a very charming effect. In addition to all this, the prints may be colored to your desire, or touched up with the appropriate tints, naturally, before the pictures are made transparent with the balsam. After they are made transparent, the colors are quite indelible.

Furthermore, the transparent prints thus cemented on glass may be backed with tinted paper, by simply gumming the edges of the paper and causing it to adhere to the edges of the glass. For this purpose it is previously moistened uniformly, and, being larger than the glass, the edges admit of being bent over and then gummed on the front edges. The pictures so prepared have a rich appearance when viewed by reflected light.

In my next article I shall give a further application of the transparent or diaphanous picture.

ACIDIFICATION OF COLLODIO-BROMIDE.

THE very bad weather which we have had has greatly interfered with my examinations; it is only in perfectly cloudless weather that a series of plates can be exposed with a certainty that each gets an exactly equal exposure. I, however, have

succeeded, within the last few days, in making some sets of exposures.

One very important result attained is, that aqua regia is not only *the best* substance for acidulating the sensitized collodion, as I have already stated, but apparently *the only* acid capable of giving really satisfactory results. Neither nitric acid nor hydrochloric, used separately, can be relied upon to keep off the fogginess. On the other hand, with aqua regia I *always* get a clean and brilliant image. Continued experiment only serves to develop farther its utility, and I do not expect ever again to expose a collodio-bromide plate that has not been thus treated.

M. CAREY LEA.

PHILADELPHIA, April 11th, 1870.

Since the foregoing was in type, I have received some most beautiful specimens of work by my process from Mr. Alexander Henderson, of Montreal. They have all the good qualities of the very best wet work, besides exhibiting much technical skill.

Mr. Henderson writes :

"Your last plan of adding acid I think the best plan that I have seen, and on the two trials I have made of it I think the negatives are much improved. My difficulty sometimes is to get sufficient intensity without silver. I think it may be from an unsuitable cotton. The simplicity in the preparation is what I like, and the softness and beauty of the negatives. The plates seem to be much the most sensitive that I have ever tried."

NEW YORK CORRESPONDENCE.

THE Photographical Section of the American Institute, held its regular monthly meeting for April, at the Institute on Tuesday the 5th.

Henry T. Anthony in the Chair; O. G. Mason, Secretary.

After the reading and approval of the minutes of the March meeting, Mr. Hallenbeck, in speaking of the great difficulty often encountered in the production of prints during cloudy weather, gave the following formula, which had given good results in his own practice.

Float plain paper three minutes on a solution composed of

Water,	20 ounces.
Bichloride of Mercury, . .	5 grains.

Hang the paper up until thoroughly dry. Sensitize on a 35-grain solution of nitrate of silver by floating the paper one minute. Expose under the negative two minutes, then develop with

Water,	10 ounces.
Protosulphate of Iron, . .	350 grains.
Glacial Acetic Acid, . . .	4 ounces.

As the paper is very sensitive, it should be well protected from the action of light before exposure under the negative, and kept in the same careful manner after exposure until the process of development is fully completed.

Mr. Chapman deemed the development of the image by an iron solution as a very important feature of the process, as many experimenters had failed in the use of iron solutions in paper printing.

Mr. Anthony thought that the success of the process might be attributed to the organic matter used in sizing the paper.

Mr. Dimmers stated, that a very similar process had been published some years ago, and that a friend of his had worked it successfully in solar printing.

Upon motion by Prof. Tillman, a committee consisting of Messrs. Hallenbeck, Chapman, and Dimmers, was appointed to experiment with the process given by Mr. Hallenbeck, and report at a future meeting of the Section.

Mr. Chapman exhibited a 4-inch negative of the sun, which gave some of the characteristic features of that body as seen through the large telescope at the Rutherford Observatory. Some of the larger spots were well defined, and the surrounding spiculae distinctly shown.

Mr. Newton exhibited specimens of sensitized paper which had been prepared early in the month of December last; also a print which had been made on the day the paper was prepared, and toned on April 1st; also another print made and toned on the last named day; all of which plainly indicated that sensitized paper might be kept a con-

siderable length of time, without impairing its quality in any marked degree.

The paper and prints exhibited by Mr. Newton had been rolled with alternate sheets of paper inked on both sides with a heavy layer of ordinary printing ink, which had almost entirely protected it from atmospheric and actinic influences. Mr. Newton stated that he did not think it necessary that the protecting paper should be inked on more than one side.

Mr. Anthony gave details of some experiments which he had made in the preparation of silvered paper, by floating on distilled water after removal from the silver solution. He had kept such paper perfectly white several months.

On motion by Mr. Hallenbeck, seconded by Mr. Chapman, Messrs. Newton, Mason, and Anthony were appointed a committee to continue their investigations upon the methods for preserving 'sensitized paper, and report the results of their experiments at a future meeting.

Mr. P. F. Wiel presented three prints from negatives made by a missionary in Africa. They were particularly interesting as illustrations of the scenery and domestic life in that distant part of the world.

Mr. Mason presented six cabinet and four stereoscopic prints of interesting pathological specimens at Bellevue Hospital. He also laid before the Section a copy of Commodore Sands' admirable report on the Solar Eclipse of August last. The report was accompanied by photographs made by one of the government expeditions.

Mr. Mason also exhibited a heliostat which he had constructed by a modification of the equatorial mounting of one of his small telescopes and the addition of a reflector.

Mr. Anthony exhibited a collection of prints by the Lichtdruck process, from the establishment of Ohm & Grossman, of Berlin, Prussia.

Mr. Kurtz exhibited a large number of very beautiful imperial card prints illustrating the effects produced in using his concave background, which he described as a two foot segment six feet across, of a papier-maché hollow globe adjusted to an ordinary iron head-rest, so as to be easily raised and

lowered or turned to any desired angle suitable for the subject under treatment. The prints exhibited, and Mr. Kurtz's plain description of its use, were such as to fully demonstrate its great value to all who would produce first-class work, as by its use, a vast number of very beautiful effects may be produced which no other means would give.

Mr. Chapman thought there had been some misunderstanding by those who had discussed his method of treating the printing solution, as several correspondents seem to confound it with that of boiling the *negative bath solution*, which he is aware was done some years before his method of treating the printing solution was published.

The Section then adjourned to the first Tuesday in May.

O. G. MASON,
Secretary.

PHOTOGRAPHIC SOCIETY OF PHILADELPHIA.

THE regular monthly meeting was held on Wednesday evening, April 6th, 1870. The President, Mr. Frederic Graff, in the chair.

The minutes of last meeting were read and approved.

The resignation of Dr. William Thomson was read and accepted.

The Secretary read a letter from the Liverpool Amateur Photographic Association, acknowledging the receipt of a package of photographs forwarded by this Society.

A communication was received from Mr. M. Carey Lea, upon the subject of the collodio-bromide process. Also a number of very creditable prints were exhibited, made on albumen paper from his negatives.

Mr. Draper presented to the Society a number of excellent photographs.

Mr. Samuel Powell, of Newport, R. I., in the course of some remarks alluding to his endeavors to aid his scientific friends in their study of natural history and physiology, by the use of microscopic photography, advocated the use of certain chemical solutions for strengthening the negative produced under the microscope. Having

had occasion to produce for Baron D'Ostensacker a number of illustrations for a valuable work on entomology, in manuscript, lost by the fire at the Smithsonian Institute, Mr. Powell commenced to make drawings, by the aid of the microscope and camera, of the delicate nerves and ribs in the wings of the specimens submitted to him. For the purpose of reproduction by photo-lithography, a clean outline was necessary. The negatives in many cases were weak, and any tendency to fog from over-development was corrected by allowing a 2-grain solution of cyanide of potassium to drop repeatedly upon the parts of the negative requiring cleaning. Subsequently they were treated with a wine-colored solution of tincture of iodine, then with an acidulated solution of bichloride of mercury, and finally with a solution of Schlippe's salts. He spoke of the use of permanganate of potassium as a strengthening agent, and also of the objection to its use by reason of its liability to produce stains caused by the presence of organic matter upon the plate.

Mr. Powell strongly advocated the use of the magic lantern for purposes of study; thus two or more students could better discuss the structure of the specimen projected upon the screen than when viewed upon the stage of the microscope. He had been recently very successful with microscopic enlargements reproduced by photography of the lingual dentition of univalve mollusks.

Mr. Powell communicated to the Society a simple method of removing silver stains from the hands, originated by Mr. O. S. Hubbell. Treat the stains with a weak solution of tincture of iodine, and afterwards clean with dilute aqua ammonia.

After an exhibition of magic lantern slides, the Society adjourned.

JOHN C. BROWNE,
Recording Secretary.

NEW ENGLAND PHOTOGRAPHIC SOCIETY.

THE regular monthly meeting of the Association was held at Mr. Black's studio, April 5th, 1870.

The meeting was called to order by Presi-

dent E. L. Allen. The records of the last meeting were read and approved.

A resolution was offered by Mr. Southworth that Section 6, Article 2, of our Constitution be so amended as not to prohibit the re-election of any of the officers. The resolution was laid on the table for one month.

Mr. Tupper declining the Secretaryship, it was voted that we proceed to the election of Secretary to fill vacancy, and upon the second ballot, E. F. Smith was declared elected.

The following gentlemen were elected members: Mr. Edward A. Whiston, of Boston, and F. H. Gould, of Woburn.

The committee on analysis of different samples of nitrate of silver made a final report, which was accepted, viz.:

"The Committee to whom was referred the analysis of nitrate of silver have attended to that duty, and beg leave to report,

That we procured samples of nitrate of silver from Messrs. George S. Bryant & Co., Benjamin French & Co., Dodge, Collier & Perkins, James S. Babcock, and E. L. Allen. We then took the silver from the original packages, divided it into equal parts (excepting No. 2 sample), and placed each sample in a clean bottle, all alike, sealed them and labelled them from 1 to 6 inclusive.

We then handed one set to Mr. James F. Babcock, chemist, and requested him to analyze these samples of nitrate of silver for the purpose of ascertaining if they contained any impurities, and if so, the amount of impurities contained in them.

The other set of bottles were handed to Mr. Charles E. Munroe, Lawrence Scientific School, Cambridge, with the same request.

Shortly after this Mr. Munroe handed in his qualitative analysis which he had obtained with the spectroscope. From this it appears that bottle No. 1 contained, besides nitrate of silver, soda, and a trace of copper; Bottle No. 3, soda, potassa, and lime; Bottle No. 4, soda, potassa, and lime, all slight; Bottle No. 5, soda, potassa, and copper; Bottle No. 6, soda and lime.

At this time the committee were not aware how delicate a test was this spectroscopic analysis, and expected that the quantitative analysis of both parties would bear it out, and when we received Mr. Babcock's report we were very much surprised that he should report "no trace of nitrate of potassa in any of the samples."

Bottle			Bought of
No. 1	contained	P. & W.'s	Nit. of Sil. G. S. B. & Co.
No. 2	"	P. & W.'s	" B. F. & Co.
No. 3	"	Magee's,	" E. L. A.
No. 4	"	Martin's	" J. F. B.
No. 5	"	P. & W.'s	" D., C. & P.
No. 6	"	Pfizer's	" G. S. B. & Co.

MR. BABCOCK'S ANALYSIS.

Bottle						
No. 1	100	grs. of sample	gave	99.50	grs. pure	Nit. of Sil.
No. 2	"	"	"	99.26	"	"
No. 3	"	"	"	99.26	"	"
No. 4	"	"	"	99.72	"	"
No. 5	"	"	"	99.50	"	"
No. 6	"	"	"	99.	"	"

"All perfectly neutral except No. 2 sample, which was slightly acid."

"No trace of nitrate of potash in any of the samples."

MR. MUNROE'S ANALYSIS.

Bottle No. 1, 100 grains sample gave 99.94 grains Nitrate of Silver, slightly acid. Impurities, soda and trace of copper.

Bottle No. 3, 100 grains sample, gave 97.40 grains nitrate of silver, neutral. Impurities, soda, potassa, and lime.

Bottle No. 4, 100 grains sample, gave 100 grains nitrate of silver, neutral. Impurities, soda, potassa and lime, all slight.

Bottle No. 5, 100 grains sample, gave 99.90 grains nitrate of silver, neutral. Impurities, potassa, soda, and copper.

Bottle No. 6, 100 grains sample, gave 99.72 grains nitrate of silver, slightly acid. Impurities, soda and lime.

He says: "I have subjected the samples to the most delicate tests, using the spectroscope in the qualitative analysis, which will explain the riddle in the fourth bottle, where we obtain by quantitative analysis 100 per cent.

"This instrument will show us the presence of the $\frac{1}{180000000}$ part of a grain of common salt."

We are quite happily disappointed, judging from the silver we have used in the past, at this result, as we fully expected to find a large percentage of adulterations or impurities in some of the samples.

FRED. C. LOW,
A. MARSHALL,
H. WM. TUPPER,
Committee.

The thanks of the Association were extended to Mr. Charles E. Munroe for his analysis of silver.

A communication was received from Mr. Loomis regretting his absence on account of sickness. Also from Mr. J. W. Black, with communications in relation to the Shaw & Wilcox Company's suit against Lovejoy.

On motion of Mr. Whiston it was voted that a committee of three be appointed to procure an official copy of the Shaw & Wilcox patent and report next month, and that the Secretary be instructed to write to Mr. Lovejoy, and obtain from him pictures and description of his arrangement for saving silver waste at the time Shaw & Wilcox commenced suit against him.

Mr. Burnham, on committee to procure pictures for the St. Louis Photographic Association, reported with a collection of photographs, to be forwarded by the Secretary.

Beautiful specimens of our art were exhibited by Messrs. Marshall, Allen, and Burnham, of Boston, Vickery, of Haverhill, Buzzell, of North Bridgewater, and Hobbs, of Exeter, N. H.

On motion adjourned.

E. F. SMITH,
Secretary.

FERROTYPERS' ASSOCIATION OF PHILADELPHIA.

THE regular monthly meeting of the Ferrotypers' Association of Philadelphia, was held at Mr. Thomas Brooks's gallery, Tuesday evening, April 5th, 1870, the President, Mr. A. K. P. Trask, in the chair.

After roll-call the minutes of the last meeting were read and adopted.

The committee on skylights and manner of conducting business at the different galleries in the city reported progress.

On motion it was resolved to suspend the regular order of business and now proceed to exhibit pictures.

There was a large collection of very fine ferrotypes handed in to the meeting, made by the following members: Messrs. A. K. P. Trask, E. F. Warrington, Thomas Brooks, Charles E. Bolles, and D. Lothrop.

On motion it was resolved that no member shall vote for his own pictures.

After the pictures were numbered and lettered by the President, the members examined them and voted as follows: three of Mr. Trask's pictures received one vote each, one of Mr. Lothrop's pictures received two votes, and another, one, making the result a tie vote.

It was now agreed that the two parties

who made the pictures should not vote again, and on the second ballot the result was, two of Mr. Trask's pictures each received one vote, and two of Mr. Lothrop's received the same number, the result being another tie vote.

Messrs. Trask and Lothrop were now requested to select from their two pictures the one they considered the best, and give their reasons for the same, which they did, and the members now proceeded once more to ballot for the best of these two, with the following vote: Mr. Lothrop's picture two votes, Mr. Trask's picture one vote, and one blank.

This was the first exhibition of pictures for the prize medal, and was decided in favor of Mr. D. Lothrop. These exhibitions are to take place at every regular monthly meeting for the remainder of the year.

On motion it was resolved to put these two pictures into the album purchased for the Society.

On motion it was resolved that the subject for discussion at the next meeting shall be: "The best method of cleaning ferrotype plates that have been used."

Adjourned to meet at Mr. E. K. Trask's gallery, 242 North Eighth Street, Tuesday evening, May 3d, 1870.

D. LOTHROP,
Secretary.

One Hundred Days in a Fog; or, Acid vs. Acid.

I THINK the gentleman who has been "one hundred days in a fog" should be more careful in his quotations from our most reliable authors. For instance, he extracts from *Hardwich's Chemistry* as follows: "Many adopt the plan of leaving the plate in the bath for five minutes, and then taking it out without any movement." And here he stops; of course we are astonished—have not gained any information. *Why?* Because he has not done justice to the man he quotes from. He should have stated *all* Hardwich said or wrote on that page, then some valuable information would have been gained by *those who need it*. The passage should read as follows: "The light ought to fall upon the plate at a sharp angle

whilst it is lifted from the bath, that the operator may see the *greasy lines upon the surface*. An immersion of from two to three minutes will usually be sufficient to *remove* them in warm weather, but, when the temperature falls, the time must be *prolonged*. Something will depend upon the number of times the plate is moved up and down, and many adopt the plan of leaving it in five minutes and then taking it out without any movement. *When the liquid flows off in a uniform sheet the decomposition may be considered perfect*. The principal impediment in this part of the process lies in the difficulty with which ether and alcohol mix together, which causes the collodion surface on its first immersion to appear oily and covered with streaks; by gentle motion the ether is washed away and a smooth layer obtained."

We now see what Hardwich means, and at the same time conclude that the writer in *Le Moniteur de la Photographie* used a very filthy bath, and did not dare to move his plate for fear of raising a dust from the bottom of his bath. Consequently, Hardwich gives *him* a remedy, viz., "by leaving the plate in the bath *until the decomposition is perfect*." No necessity for thus moving the plate.

Again, in relation to acids.

If the gentleman who has been "one hundred days in a fog" will note what Hardwich writes on page 278, I think he will be able to give some information to A. B. M.

Now let us see what is said on acids, *when used with certain kinds of collodion*: "Acetate of silver or acetic acid, which in the nitrate bath for *iodized* collodion often exercises a beneficial effect in increasing both density and sensitiveness, here act differently; they increase the density but lengthen the exposure. A small proportion of nitric acid, on the other hand, materially increases the sensitiveness, and at the same time lowers the vigor of the image." He also states other effects caused by the acids under certain conditions.

It is not necessary, at this time, to go more fully into all the various quotations, but all who wish reliable information can obtain it by carefully studying *Hardwich's*

Chemistry and M. Carey Lea's *Manual of Photography*. We, of course, must understand what we see and read, and, regardless of time and expense, keep posted. That means, subscribe for the best journals and keep a good library of the best standard works on photography. You will get "light" enough to repay you fully.

G. S. REYNOLDS.

GERMAN CORRESPONDENCE.

Photography in Colors—New Discoveries concerning Gun-Cotton—A simple Outdoor Tent.

MUCH has been said and written of late about photographs in natural colors; but the reproduction of the natural tints by the aid of the camera obscura has not so much been the aim as the making of a set of negatives of the same object, which are afterwards printed on blue, yellow, or green carbon-paper, and transferred to the same sheet. The idea is not a new one, but has lately been brought prominently before the public by the labors of Ducos du Hauron.

The negatives which furnish the yellow prints are taken through blue glass; those which represent the blue tints are taken through yellow glass. How much of a negative we will get through a yellow glass every photographer will know without an explanation. But, to cut the matter short, the attempt has been made, and resulted in something, but not in perfection.

In the last session of our Society, Mr. Humutz proposed to have the negatives copied on stone; from these stones prints can be made in the different colors in the ordinary manner of chromo-lithographs, and these would be real photochromo-lithographs. The Society was much surprised when Mr. Burchardt, a well-known lithographer, stated that he had already made such pictures, and that they had become articles of trade. He produced three large photochromo-lithographs. The process is curious enough. The pictures were copies of water-color drawings. The negatives are not taken through colored glasses, but simply by varying the time of exposure. Suppose the picture contains five colors,—

black, yellow, green, vermilion, and blue. These colors have various times of exposure. With a very long exposure, black will be the only color that has not impressed the sensitive film; all the other colors will be over-exposed, and will appear in the print the same as white. A print taken from this negative will give all the black outlines and black parts of the picture; this picture, transferred to stone, is of course printed with black ink. If we shorten the exposure a little, black and yellow will fail to make an impression; *i. e.*, the others will be over-exposed. This picture is now transferred to stone, and printed with yellow ink; that the yellow also prints over the black makes no difference. In a similar manner, we obtain the negative for green. This color would overlap the yellow and black parts, and would, where it overlaps the yellow, be rather annoying; but we can help ourselves by printing the green first, and then the yellow with an opaque yellow, which would cover the green completely.

A little intelligence and knowledge of colors are necessary; but that the thing can be done has practically been proven by Mr. Burchardt. The only real difficulty which he met was in reproducing the blue, and the blue parts he had to draw in by hand.

These are the first practical results of the experiments that have lately been undertaken in this direction, and, with skill and intelligence, an important future may be in store for this new invention. I hope to be able to send you specimens for the Exhibition at Cleveland.

Next in order, I have to refer to discoveries which throw a new light on our knowledge of collodion.

Every photographer knows how widely different the gun-cotton from the same factory is at various times. To-day it dissolves easily, a year hence with difficulty; to-day powdery, in a month fibrous; sometimes yielding a spongy, at other times a horny film. Nobody has taken the trouble to study more closely the cause of these variations. We accepted it in good faith that gun-cotton is a chemical compound, which, like many other chemical compounds in the organic world, changes somewhat in its qualities.

Lately, however, M. Camuzet has communicated to the French Society that gun-cotton is not a chemical compound, but a mechanical mixture. If we take the very best cotton, dissolve it in alcohol and ether, and pour the resulting plain collodion in water, we will find that the cotton will separate in three parts: a flaky one, which will rise to the top; a powdery one, which will settle at the bottom; and a third part, which will dissolve in water.

Gun-cotton soluble in water! Who would have thought it? And the most curious part is that the soluble part is quite considerable. M. Camuzet dissolved four samples with the following results:

	Flaky part.	Powdery part.	Soluble part.
No. 1. Best Collodion,	0.31	0.15	0.54
" 2. Ordinary "	0.27	0.13	0.60
" 3. Powdery "	0.27	0.07	0.66
" 4. Papyroxyl "	0.60	0.05	0.35

The flaky parts, when dried, will burn like the best gun-cotton, and redissolved in alcohol and ether will furnish a good collodion.

The powdery part can be heated until it is charred to blackness without explosion. It dissolves poorly in alcohol and ether, and gives an indifferent film.

The soluble part, and which in some samples amounts to more than 50 per cent., has not been examined by M. Camuzet. It is more than probable that the excellence of gun-cotton is proportioned to the amount of flaky matter; and this would not only give us a means of determining the quality of a sample by dissolving a part of it in alcohol and ether, and by throwing it in water determine the quantity of flaky matter, but we can also get rid of all obnoxious substances, and get a chemically pure preparation. Such a preparation is of the greatest importance for photographers. Every one knows how variable the quality of collodion is, and what curious results these variations produce in our baths and on our plates. It is very probable that the part which is soluble in water is a "mixtum compositum" of various substances, such as dextrin, sugar, perhaps oxalic acid, xylodin, etc., etc., all of which bodies act more or less

injuriously on the bath and the sensitive-ness of the film.

What would a careful photographer not give if he could get rid of all these impurities? Another curious circumstance we must not overlook. How is it that the soluble substances are not removed by the frequent washing that the cotton is subjected to? We must suppose that in water the insoluble parts of the fibre form a membrane around the soluble parts, and prevent their removal.

The circumstance that papyroxyl furnished the largest amount of flaky matter, and consequently the best collodion, we must explain by stating that the fibre is mechanically much torn in making the paper, and this facilitates a more complete penetration of the nitro-sulphuric acids.

We hope that our manufacturers will take advantage of this new discovery.

In conclusion, a few remarks on new inventions in landscape photography. From the beautiful collection of landscapes taken in the Sierra Nevada, California, which you were so kind to send me, I see with much pleasure that with you landscape photography is as much practised as with us. An important article in this branch of the art is the tent, which, on the one hand, must be light and portable, and on the other strong and solid. Herr Kluizer, in Brannar, has constructed a tent for short excursions, which stands on a tripod, the feet of which can be drawn out or pushed together. When fully drawn, they are about seven feet long. Over the three feet of the tripod a cloth is drawn, made of some stuff impervious to light. From the top to 3½ feet down the cloth is nailed to the legs of the tripod; the balance falls loosely to the ground. A window of about eight square inches, made of yellow oiled silk, is sewed in. The table is three-cornered, and is fastened in the feet of the tripod by hooks and eyes. The table can be folded, and contains a groove for the bath and another one for a dish with water. The whole affair is set up in a moment, and as soon folded up again.

Yours truly,

DR. H. VOGEL.

NOTES IN AND OUT OF THE STUDIO.

BY G. WHARTON SIMPSON, M.A., F.S.A.

Varnish for Facilitating Retouching—Accelerators in Collodion—Filtering Collodion and Viscous Solutions—New Photographic Engraving Process—The Berlin Process.

Varnish for Facilitating Retouching.—The admirable example of the value of skilful retouching on the negative, in the *March Photographer*, is one of the most instructive of the many excellent illustrations you have issued. In spite of reiterated and vivid descriptions of the process of retouching, and of the result produced, which have been published, the photographer who has never seen a print from a touched negative, and one from the same negative side by side, can form but a very imperfect idea of what can be accomplished. That issued in the *Photographer* very happily hit the *juste milieu*, refining and removing rugosities of texture without either impairing the likeness or removing the lifelike flesh texture of the face. Some artists make a great mistake when they over-touch and produce an image which suggests rather a piece of sculpture than the mobile, yielding flesh-like effect of a human head. But I commenced with the intention of referring to a varnish which very materially aids the operation of retouching either by means of lead-pencil or water color. This varnish possesses most valuable properties for many purposes, and its constitution has been a carefully-guarded secret. It has the peculiar property of drying with a hard dead surface without becoming opaque. It is quite without the glassy surface of ordinary negative varnishes, and has none of the opacity of a chilled spirit varnish. It affords an excellent tooth to the pencil for retouching, and also takes water colors admirably, having none of the greasy repellant character often possessed by the glassy surface of a bright varnish. The production of this dead surface is due, I understand, to the character of the solvent, which consists of a mixture of ether and benzole. Any of the gum resins, soluble in benzole, may be used; but which is best, I have not learned, nor have I, as yet, had time to

enter upon experiments with a view to determine. Gum dammar, it is probable, may answer well, but in a future letter I shall probably record the results of various experiments in this direction.

Accelerators in Collodion.—Some discussion has recently arisen at this side of the Atlantic, as to the possibility of securing greater rapidity by introducing accelerators into collodion.

The agent which has recently had attention was tried many years ago by Hardwich and abandoned. I refer to gallic acid. Mr. Bovey, an intelligent practical photographer, states that he has gained a decided advantage by its addition to the collodion, whilst several other experimentalists declare that they find no change effected by the addition of a small proportion, but, on adding sufficient to produce any marked effect, fog at once followed. I remember, in the early days of the collodion process, some sixteen or seventeen years ago, trying a somewhat extensive series of experiments with accelerators, or suggested accelerators in collodion. Gallic acid, camphor, various resins, essential oils, etc., were carefully tried, but, whilst some degree of increased rapidity was secured in some cases whilst the mixture was new, it generally happened that the collodion became exceedingly insensible after keeping a short time, and a tendency to fog, spots, stains, etc., was often induced by the addition. I finally came to the conclusion that the only valuable accelerator was a bromide, at that day, not commonly used.

It is somewhat curious to note the tendency, in the early days of any art, or any branch of any art, to empirical experiments for its improvement.

In the first few years of the daguerreotype process secret empirical methods of securing advantages abounded. Magic buffs, quick-stuffs, etc., of various kinds were common, but general practice settled down to the use of iodine and bromine in slightly-varying proportions, based on the judgment of the operator. The same fact is true of the collodion process, the various additions to which I have already referred, for securing sensitiveness, together with glycyrrhizine and similar bodies, have not been

found generally valuable. It is not at all improbable, however, that renewed experiments, in the light of modern knowledge, might be productive of better results.

Filtering Collodion and Viscous Solutions.

—The excellent remarks of Mr. Carey Lea in a recent number of the *Photographer*, reminded me of a method introduced to my notice some time ago. A correspondent sent me a very simple and efficient aid to such filtering operations which he had manufactured himself. It consisted practically of a syringe made as follows: a glass-tube about an inch or a little more in diameter, and about eight inches long was covered at one end with one or two thicknesses of any suitable fabric of close texture. The tube, then nearly filled with the viscous fluid to be filtered, a piston, fitting the tube pretty firmly, was placed in the other end, gently forced down, and, of necessity, driving the fluid before it, but leaving on the inside of the filtering fabric all coarse particles. My correspondent had chiefly used this for filtering India-rubber solutions, and had found it answer admirably.

New Photographic Engraving Process.—

New or modified methods of photographic engraving have been so frequently proposed and so frequently patented, without coming to anything, that photographers have acquired a habit of waiting for results before feeling a deep interest or profound belief in any of the methods proposed. Mr. Woodbury has, however, just patented a method in this country, which possesses very great promise indeed, and, judging from the one specimen I have seen, is capable of producing very fine results indeed.

The process is based upon Mr. Woodbury's photographic relief process, part of the operations in which are employed to produce the printing-plate in the new method, which may, indeed, be regarded as a modification of the old one, although giving different results, printed at a different press, and with a different ink.

In order to make the matter clear to the reader not familiar with the technics of intaglio printing, I must briefly explain one or two details. Most of your readers know that copperplate printing is effected

with a plate having an image in intaglio; that is, the design is cut in or sunken, not in relief. They also know that Mr. Woodbury, in his photographic relief process, prints from a similar plate. It might naturally be asked, therefore, why Mr. Woodbury's intaglio plate might not be used in the ordinary process of copperplate printing instead of requiring a special gelatinous ink and special presses. There are several reasons, but there is one of an especial and primary character; such a plate from a subject with half-tone has no ink-holding capacity. In a subject with half-tone there are broad spaces of flat or continuous tints, out of which the ink would be wiped when used for copperplate printing. It should be remembered that, after inking a copperplate it is wiped to remove all the ink which does not fill up the sunken design; and, if the plate have no grain or ink-holding spaces, the ink is wiped out of the widest and shallowest spaces, destroying much of the image. If, however, these spaces have a grained or cellular texture, the ink is held by the grain or cells, and is not wiped out.

Various methods have been adopted to secure the requisite quality in the photographic engraved plates, with greater or less degree of success, which it is not necessary to refer further to here. The method adopted by Mr. Woodbury is analogous to some of them, and, apparently, more efficient than the majority of them.

Like many other valuable discoveries, Mr. Woodbury's new process owes its origin partly to accident. About twelve months ago Mr. Woodbury gave me one of his gelatine reliefs which had a singular defect. He was in the habit of adding a little coloring matter to the gelatine from which his reliefs were formed, as an aid to examining their progress in development. On this occasion, from some unexplained cause, the color, instead of diffusing itself as a flat tint or stain, granulated, and communicated to the gelatine relief a surface resembling that of a very fine aquatint plate. When this effect was first produced I discussed with Mr. Woodbury the chances of utilizing it as an aid to producing a photographic engraved plate for copperplate

printing. The idea then canvassed, Mr. Woodbury has since worked out to the present issue. From a granulated relief an intaglio in lead or type-metal is obtained by hydraulic pressure; but, as such a plate would be too soft for valuable service in the mode of printing employed with copper-plates, it is desirable to proceed further. This soft metal plate is therefore placed in the battery, and a copperplate in relief obtained; from this, as a mould, another intaglio plate is obtained in the battery. This last is the printing plate, and to give it enduring qualities it is submitted to the *acierage* process, whereby it acquires a steel face, so that a large number of impressions may be obtained without sensible wear.

The Berlin Process.—I have been much interested in Mr. Rowell's examples of the "Berlin process," with which you kindly furnished me. The effect was certainly novel and pretty, and led me to attempt at once to produce it. My experiments have led to some curious conclusions.

As it would have been somewhat difficult to rough the back of negatives in existence, I adopted the obvious means of supplying its place by placing a piece of ground-glass with the rough side in contact with the back of the negative, and so printing through it. A slight degree of granulation was imparted to the print, less in degree and softer in kind than the American prints with which you were good enough to furnish me.

After some further experiments, I tried another plan, based on some former experiments in which I had aim to produce a grain for photo-lithographic purposes. I now took an extremely thin sheet of mica, and, by means of a mixture of zinc-white and mastic varnish, I produced a delicate stipple on the surface, closely resembling fine ground-glass. I interposed this between a piece of sensitive paper and the negative in printing. With some negatives, the effect was so slight as to be scarcely appreciable, and the picture seemed neither better nor worse, in any noticeable degree, for the treatment; with other pictures, however, a specific advantage was gained. The subjects best suited are large heads, in which the greater part of the face

is in half-shadow. In these pictures the slightest amount of over-printing is apt to produce a somewhat dirty effect in the face, the shadows are opaque, and the head loses at once delicacy and modelling. The thin stippled veil here becomes of service. It is so slight that in the blacks it soon becomes ignored, and is lost, as in deep printing very weak detail in shadow is lost, so that in the darkened parts of the head, such as the eyes, the deep shadows of the hair, etc., its effect is not perceptible at all. In the lights, which only very slightly print through at all, it is from the same cause, its delicate thinness, without noticeable effect; but in the half-shadows of the face, which print through just sufficiently to show grain or texture, but do not get sufficiently deeply printed to become buried and ignored, the effect is very apparent. The half-shadow becomes more transparent, the minute stipple of lighter points admits light into it, and becomes tender and delicate without losing force or modelling.

But still the results I produced were not quite the same as those of Mr. Rowell, and they were not quite so good as his, and after some reflection I have come to the conclusion that it is not improbable that another cause is in operation here to which some of the softness of the prints is due. The effect in a negative taken on glass, the back of which is ground, is decidedly more marked than the effect produced by printing through ground-glass with the roughed side of the glass in contact with the negative, and, so far as the mere effect on the printing is concerned, there can be no reason for this difference; some other cause must, therefore, be sought. The possibility which occurs to my mind to account for this fact is the reflection of the light passing through the film back from the thousands of fine facets presented by the ground surface at the back of the plate, and these reflections, being infinitely varied in their direction by the varied angles of these minute reflecting surfaces, will tend to give the soft effect similar to diffusion of focus, in which freckles, pock-marks, and rugosities are softened and diffused as the painter softens and blends his tints by a gentle touch of a

badger hair tool. If this conjecture be correct, it is necessary to take the negative on glass roughened at the back, and not merely to print through such a roughened surface.

LONDON, March, 1870.

THE ROSS LENS.

THE introduction of the Ross lenses into this country is an era in photography. Although Mr. Thomas Ross, father of the present Mr. Ross, began the manufacture of optical instruments forty years ago, and since the birth of photography has made the best photographic lenses in the world, his instruments are comparatively little known in this country, for the reason that they have not been pushed and advertised here as have others. Mr. Ross's factory could scarcely supply the demand at home which has been so augmented by so extended a reputation, but after earnest solicitation he has made an agency here, and American photographers are now enabled to try and compare his lenses with others. They are pre-eminently *first-class*. We haven't the space now, but we shall, presently, devote an article to their excellencies, their peculiarities, and their construction. We also hope to show our readers an example of work made by them. A very handsome and extensive catalogue of them is before us from the agents, and for the present, we refer our readers to that, and to the advertisement on the cover of this number. We clip the following from the *London Times*, March 16th, 1870:

"A RARE LENS.—The largest photographic portrait lens ever made in this country is one of 10½ inches diameter, recently completed by Ross, and now in the possession of Mr. Mayall, of Regent Street. It is an achromatic lens of great power, and will take portraits of any size, from the smallest miniature up to very nearly life-size. It is made of glass of the whitest description, and its size admits so large a volume of light that photographs covering a space 10 inches by 10 inches may be done in eight seconds. The lens renders in the photograph all that is seen in the optical image, and this so truthfully that the coarseness

and exaggeration belonging to large photographs taken with inferior lenses are altogether absent. In the open air, groups of fifteen to twenty persons (each face the size of a sovereign, and the whole picture 24 inches by 24 inches) can be taken with the short exposure of ten seconds. The cost of manufacturing the lens was upwards of £200, but it may be said to be worth its weight in gold."

PRIZE FOR PHOTO-CRAYONS.

As we understand the *Photo-crayon* is to be largely represented at the Cleveland exhibition, we think that competition in this new style ought to be encouraged, and rewarded by the awarding of prizes to those exhibiting the best examples. We therefore offer the following prizes: A beautiful solid gold medal to the exhibitor of the best Photo-crayon, a silver medal for the second best, and a bronze medal for the third best.

The medals will bear appropriate inscriptions, with the name of the exhibitor to whom such medals will be awarded.

So as to have uniformity, all the photo-crayons sent for competition must be on Sarony's 11 × 14 crayonized sheets, enlarged from either a card or imperial negative, and accompanied with a plain print from said negative.

We shall, furthermore, pay fifty crayonized sheets (cost \$25) for any Photo-crayon on exhibition to which a prize will have been awarded, should the exhibitor desire to dispose of them.

The manner of choosing the judges for the awarding of these prizes, will be left entirely to the executive committee of the Association.

The Messrs. Sarony & Lambert, being the originators of this new style, which they have introduced into this country, will not compete for the above prizes.

Hoping that every photo artist will try to make this Exhibition a telling success, and that none will be so *foe-to-graphic* as to refuse to join in this great work of progress, we remain yours, fraternally,

T. H. N. & N. A. P. SARONY LAMBERT.

THE "WHITE HILLS" WHEN THEY ARE "WHITE."

WE, perhaps hastily, in our last issue promised to give our readers an account of a week of delightful enjoyment we had in the White Mountains early in March. We do it, because we think there are others who have as great a capacity for enjoyment as we have, and whose close confinement makes recreation as necessary to them as ours does us. There was a general shivering among those we told of our intention of going, but we have *been* now—we have seen the White Mountains both in summer and winter, and we say emphatically, no one has *seen* them, until he sees them in their snowy finery—in *winter*. As we stated in our last, we proceeded to Littleton, where we were joined by Messrs. Kilburn and Hill, and made our first trip together to the famous Crawford Notch, supplementing it by a good night's rest.

At early dawn a friendly voice awakened us with "Good morning, boys. Thermometer is five degrees below zero, and a glorious day is promised; the mountains are all clear!" Our informant got his information from a high hill back of his own house, where a grand view of the White Mountains may be had.

Our team was ready soon, and no time was lost in making our preparations for the start. With gay thoughts we went out into the air, and inhaled a few of the "degrees below." The horses were restless, so we prepared to go. Buried in a sleigh full of buffalo robes, submerged in coon-skin great coats, lost in huge rubber boots and overwhelming caps, we left Littleton, our fine team of snow-colored horses, with their jingling bells, being eager to start. With snow under our runners from eighteen to twenty inches deep, we glided along at no slow pace.

We were soon among the hills and saw old Sol rise far away from behind Mount Washington, amid a mass of golden clouds which he threw from his stately person, and began his day work of creating lights and shades for our special benefit, for *then all* things seemed *made for us*. No one spake. The horses were stopped that the gorgeous

sight might be enjoyed more quietly. Zero and his "degrees below" were forgotten for the moment, and when the effort was made to speak, "each individual hair" of our moustaches was found to be cemented by the frosty air to our icy beards, and no mouth could articulate properly until a thaw ensued.

Several hours' drive then followed, the grand White Mountain and Franconia ranges being both almost completely and continually in sight. On the extreme left was Mount Madison, followed by Mounts Adams, Jefferson, Clay, Washington (the highest), Monroe, Pleasant, Clinton, Webster, Willard, Tom, Haystack, Lafayette, Bald, Cannon, Eagle Cliffs, and so on to Mooseilauke or Moose Hillock. Not one of all these was cloud-capped, though the accommodating clouds, hanging high above, soon covered the sun, and spared us the dazzling glare from the snow, which threatened to trouble us earlier. Our view, therefore, was most enjoyable, uninterrupted, and complete. Each mile changed the aspect. Madison, Adams, Jefferson, Clay, and Washington, were literally covered up with the snow, and grandly did they look in their winter clothing. But for the deep gorges here and there, few dark spots could be seen. The trees on the mountains nearer to us were a constant wonder. Being covered with snow and hoar-frost, they looked like groves of crystals, and dazzled the eyes and the comprehension to look upon them. Their splendor could neither be painted, photographed, or described, and the trio that then gazed upon them were impotent indeed. Nature had covered up her gaudy patchwork with her best white spread, and its glory must be seen to be understood. Oh! how the tree-tops bristled in their great defiles along the ever-changing outlines, reminding one of a million of bayonets borne by sturdy arms, catching and reflecting the sunshine, making it into necklaces of diamonds and brilliants for the bosom of Dame Nature.

In a few hours we reached the White Mountain House, and from there saw the Mount Washington Railroad Depot. The drive from there to the Crawford Notch was slow necessarily, the snow being deep,

but the enjoyment was great. The Crawford House was closed, of course, but the cottage is always inhabited; and thanks to the courtesy of Mr. Thom, one of the well-known proprietors of the Crawford House, and his assistants, an appetizing mountain dinner was prepared for us in good time.

After dinner, a new experience awaited Mr. Hill and us. We were to climb Mount Willard on snow-shoes! Chered by our friend, Mr. Kilburn, we put them on and made the start. Did you ever try to walk on snow-shoes over a drift of snow twelve feet deep? "No." Well, then, tie a whole size, long platform camera-box to each foot, with the platforms backwards. Now walk out into the snow—or mud will do, if deep enough—then, as you lift one foot, catch the front of one box fast to the platform of the other, and fall down, hands first. Could you ever extricate yourself from such a predicament? Not well; but you would feel as one feels when he experiences his first fall with snow-shoes on. We soon became accustomed to them, however, and it is astonishing what a help they became. One sinks but two or three inches into the softest snow with them.

Up, up we clambered. The ascent is steep, and therefore tiresome. With a slow, swaggering swinging stride we stepped along, stopping often to take breath, the air growing more and more rare as we advanced. The perspiration rolled down like rain, and coats and vests were thrown open, and gloves discarded. Through vast forests of evergreens, heavily laden with frozen snow, we clambered up, *up*, *up*. When stopping the pervading silence could be *heard* almost, as darkness can be felt, for not a sound fell upon our ears except the throbblings of our own hearts. Much of the way the snow hangs upon the bowed-down trees in thick masses, and these must be the winter wardrobes of the fairies and the nymphs. Nearer the summit the snow is thinner upon the trees, and gives greater detail to their shapes, each tiny limb coming in for its share of the burden and the splendor. Here the fairies get their laces and their haberdasheries and their embroideries and their fine jewelry. The sight is one not to be described, but Mr. Kilburn's

busy camera has been poked in here and there among them. He has secured some grand stereoscopic views of those trees in their winter garments.

After one hour and twenty minutes of *hot work* the summit was gained. We received a very cool reception from Mr. B. O. Reas, who reigns and keeps open house up there, but despite his howlings, we remained eighteen minutes, snapped some of his ice to quench our thirst, then drank in the great view before us, which seemed to be like the hold of a great vessel. Forty miles away could be seen the sharp sides of Mount Chochorua, white as driven snow, like a great pyramid against a background of most beautiful ultramarine blue. Down the valley was the Saco fighting its way through the snow, and the great valley lay snow-covered and slumbering. The Silver Cascade and all its tiny companions were fettered by the strong grip of the Ice King, and their noisy gurglings were hushed. Nothing but the imprecations of our frigid host could induce us to leave so soon, but we feared the result of disobedience, though we *felt* that his threats were all *blow*, and made the descent in half the time occupied in ascending, and with much less labor and perspiring.

Down through the Crawford Notch we travelled then, shying an icicle at the "Elephant's Head," kissing our hands to the "Old Maid," and shouting at the answering echoes towards the Willey House, over the fences we strode with our snow-shoes, for they were all under the snow, and over great rocks that last summer caused us some effort to get up to the top of them. The road that leads from the Crawford to the Willey House is now as rugged and rocky, and rough as the top of Mount Washington, in consequence of the great freshet which occurred in September last, and which drove before it all stones and rocks weighing less than a ton or so. Much less sad and terrible in its consequences though than the great Willey slide, which Mr. Hill has rendered immemorial now by his wonderful painting.

Coming back we met Mount Willard face to face, the congealed cascades hanging down his snowy front "like the oil upon Aaron's beard," and his frowning, wrinkled, and

frost-bitten cliffs, which we mastered a few hours before, seemed ready to cast themselves upon us.

All night at the Crawford House Cottage, where stories of adventures were told by all hands until time to rest, and in the morning away for a fish. Oh! how the pickerel and the trout do swarm in these mountain streams! Cut twenty holes in the ice; over each suspend a little bough, to which fasten a little red flag, and a hook and line. Now march back and forth, warming yourself betimes by the great fire built for you, and *watch*. Down bends the little bough making the little flag to courtesy. Run! pull! quick! Ah! what a fine fellow you have floundering in the air! And that is fishing! You do not suffer from cold, for your twenty lines keep you both busy and warm.

But we must not tire you. This much with our drive back to Littleton occupied two days, and long ones too. Of our further adventures in the snow we may find space to tell you in our next. To tell *all* that we saw would occupy a whole number of the Journal at least. Only go for yourselves, and you will enjoy it.

The Sitter hath Trial as well; or, The Other Side.

OVERTAKEN by an unusual hankering after literature during the late "great storm," when all supplies were cut off by land and by sea, and we languished, faint and famishing, beneath high Alps of snow, I ambulated up a ladder into a reserved library, cornered out of a big chimney which stood in the centre of our roof-tree, in search of mental refreshment.

Reward awaited the enterprise, as here, stored by provident hands in orderly phalanx, were the bulky embodiments of our ever-increasing "monthlies," among which and greatly prized were the "*Philadelphia Photographer*."

In lieu of later novelties, I fell upon a copy of one of last year's issue, thinking, "joys we have tasted may sometimes return," and to my surprise came across this most fatherly injunction: "Write unto me all ye agonized photographers, who are

knee-deep in tribulation, and I will give you consolation and recipes," or what was its equivalent.

Unprecedented philanthropy to be sure, but the assumption that only they to whom it was addressed could be in need, seemed to my amused eyes a very partial, prejudiced, one-sided, view of things, to take by such a bright black pair of optics as preside over these offerings.

Instantly the conviction seized me it was my mission in life to enlighten so benighted an editor that he might discern clearly the truth; which is, that the fraternity, unhappy as it is in colliding with all manner of difficulty and misfortune, does not monopolize all the misery incident to picture making.

Why bless you, *our* trials begin with the inception of the idea, a long time before the man at the guns is aware of our existence. We look at it first in the light of duty, trying to familiarize our minds with it by strong will. After breaking faith with ourselves a dozen times by as many postponements, the day is finally set apart when culminates the agony, and you don't sleep or wink all night.

At least I didn't. It makes me chilly to recall those long, dark, nervous hours, in which danced imps, grinning and exultant, making mine a Procrustes couch.

There was the toilette—no trifling desideratum with us weaker vessels—and the posing, besides meeting the man who don't believe at all in your style. Shiveringly I was in and out of my entire wardrobe (it consists of two suits) twenty times before morning. First the black and then the blue, and sometimes I had them both on. Desperation decided the blue at last, and I went to sleep and dreamed such a sweet delusion of the artist. He was so melting and suave, so touching, too. Didn't accuse me of notions and nerves, nor ignore all my plans and opinions. Then there I was transferred directly to the card, without any humdrum intermediate process—and such a *beauty*.

Alas! for those who put faith in dreams.

I told Spriggins as I stood at the mirror in the morning, that I looked like a fright, to which he unqualifiedly assented.

But then our little world of order had been broken through for this great event. Dinner had been trundled into the end of day, upsetting all domestic data; a very chaotic programme of baking and dusting, frugality and expedition, made out for my automatic Mary Ann Factotum; beside, my hair was frizzled, so go I must, let what would come of it,

My snowy frills were terribly bedraggled on those abominable stairs, to the top of which I pantingly clambered, to find only fifteen engagements scored head.

Absorbed exclusively by my own affairs, no thought had occurred to me a soul else would want pictures upon this day. Or if I thought anything, it was that the business stood still waiting my pleasure and arrival, that the whole energies of the establishment were accumulating expressly to spend their force and power only too delightedly on me. Consequently great was the dash given my expectations by these numberless people. It was as though they had premeditatedly usurped my rights, and would laugh at my defeat and glory in my chagrin.

But bent on biding my time now I had come, I settled into the only vacant seat with grim determination.

It was a long, low, many-windowed room, with passing views of gay women and jolly driving, but no one looked out or seemed interested in aught but waiting, and that they did most forlornly, unlike those who wait with a certainty of its fixed and final ending. It might be one hour, or two, or a day, or longer. The harrowing uncertainty told in their elongated visages and dejected air.

One group of females looked especially funeral in their dismal attire and lockjaw expressions; sat as immovable as statues, with back hair twisted up fast and tight, nut-cake fashion, and stabbed with pins sufficient to warrant a horseback gallop. Beyond, in striking contrast, loomed two immense chignons, to which were attached two gauzy, giggling brides, to whom, in turn, were attached two Grecian-bender husbands. It behooved them to secure these orange-blossoms and honeymoon faces ere both should fade.

"Dear me if here aint another," was the

tardy reply of my next neighbor, whose expansive hoops could, in no way, be coaxed between the arms of her chair, and so tilted up exposing two skinny ankles and long *pantalettes*. "'Pears like the hull town's gone crazy to have their pietur took. I told Jonathan this morning when he was hitching up—ses I, Jonathan, if them bandy legs a hizzzen don't fly round and do the job up this hiteh, he'll never git no more patronyge of mine,—you can just salt that down."

This little speech she delivered in a general way for the ear of the public. But the ear of the public being dull and unsympathizing, and I in close proximity, she turned her back upon it and favored me with her confidence, unbosoming herself at great length:

"You see this is five times we've druv over—near on to ten mile; because you know I've got a inward *Tricocephalus* set up that may end my life any minute."

"Ses Jonathan to me, 'Betsy, your the choice of me youth, the pride of me heart; if it costs our red heifer we'll have your pietur.' He was allus orful attached to me. Wal, the fust time the pietur man done putty well, was as perlite as a beggin committee, sot me several different ways to git the best pints. I haint got the stiddest nerves in the world, and never could bear a man fussin over me, so what with my squirmen and his fussin it took almost all day. I ses to Jonathan driving home: 'I guess I learned him one thing, and that air was I'm virtuous.'"

At this point she seemed exhausted, and opened her lunch basket which gave forth some huge doughnuts she had tucked in beside her best cap, with which she proceeded to regale herself, taking the story of her trials along with the eating.

"You see we had something of a tussel about the pay—he wanted it right down. But I never pays no man till I git the value received. I got that lession dealing with tin peddlers. He saw I was firm as a hitching post and finally gin in.

"Wal, we waited and waited, and Jonathan he druv over and over and piled up them air stairs and got a erick in his back, and at last they wus all struck off. At fust we

thought um pretty good, but the neighbors they said how I wasn't fetched out enough, and my daughter Tilda Jane, she thought I orter been took standing. Wal nobody thought um quite natural, so I told Jonathan I'd set again."

The last doughnut was eaten and she sat meditatively, economically picking up the crumbs from her alpaca lap, when seeing the interest I manifested, went on.

"Jonathan, he's been poorly all winter; fust he had the shingles, then he had a wasp nest, so what with them and the crick aint fit for nothin, he says, but tied up to me. The next two times we come they said they was too bizzy to look at us—got short and cranky. Then 'twas too dark, but we ambushed um early to-day. I made up my mind to come and set it out if it takes till pitch dark."

The poor woman's fervor reached a crisis, and in fetching an extra breath, drew a crumb into her windpipe which so choked and strangled her as to cause her waterfall, that had dangled precariously some time by one pin, to plump on the floor. A squint-eyed boy restored it with comical grimaces, assisting to adjust it cornerwise over the left ear. At this denuding catastrophe, he had slipped out from a half dozen of his compeers, who, to beguile time, were hovering over specimens, whistling, and posing legs. Tall, overgrown, noisy chaps, just entering the estate of jewelry and neckties. Conscious-looking juveniles who had it on their minds to look in the mirror directly, and when they did, drew on such long ghostly expressions one wondered they had courage to face them. But they stood it out, each hitching at his already too visible linen, betaking himself complacently thereafter to peanuts; sowing recklessly the new bright carpet with the debris, which, together with seed-cake and crackers scattered by hungry infants tearing about, gave the place quite an easy-going air.

Between times ghostly guttural sounds, like a distressed Dutchman in a barrel, came rumbling down tin tubes, accelerating our blood a little and signaling the victims to fresh martyrdom.

At length, after a weary four hours' waiting, enough to annihilate the animation

of new yeast, or depress the spirits of a June cricket, release came, and I was ushered into the presence of the hero of my dreams.

He was a slightly-built, nervous individual, who forestalled all his troubles, as you could see by the contractions over his nose, and who drank one up at a glance. Unlike Sammy Weller's, his "vision" was *not* limited, his eyes being real "double-magnifying microscopes" of hextra power. Never a glamour beguiled him. Striking an attitude, with the coolest *sang froid* he roamed up and down the front gores of my dress, squinted round my chignon, peeped under my modestly-drooping eyelids, noting generally every defect.

Of course, under such open scrutiny, infirmities grew apace, making it only too obvious in his decipherable frowns, that "nothing much can be made of *you*."

Phantoms of my dream still haunted me. Alas! where were the sweetness and tenderness it promised? Instead thereof, here confronted me literalness and no trifling. No pearlyling over rough places like the wise little oyster, but rather bringing all things to light.

Some weakness or other, either of soul or body, is the inevitable condition of life. If nature is lavish of beauty, she straightway compensates herself by a limitation of brain. Sometimes the frisky old dame gives loveliness to form but repents at the features, afterward endowing the recipient of her fickleness with sweetness of temper, that her distributions may be equitable.

When doling her gifts to me she was particularly generous in *nose*. No subterfuge had ever saved it from immediate observation. Being, therefore, conspicuous, it was early seized upon for experiment, and exercised at all altitudes and in all possible lights and bearings.

Nevertheless, it proved a stubborn fact, destined to destroy all the poetry of a profile, my coveted attitude. Suddenly the offender was brought round, and turned uncompromisingly into the camera by a grab at the chin, and my carefully-arranged tresses so pulled and tossed, I should have screamed had they been in at the roots. Such twistings and turnings, such bend-

ings and doublings too, gutta percha would have resented it.

And then the despair of this lynx after a succession of failures. To see him merge into that dark hole of mysteries and smells all a-tremble with hope, and then emerge, limp with disappointment. It was pitiable and made me weak from sympathy.

So the day faded with these repeated efforts, and night approached. I reflected upon the *yearling* hen fricasseeing with unfaltering perseverance at home with much composure, knowing full well it could not be over done.

"Success hasn't crowned our efforts to-day, madam; or, in other words, it's a fizzle. Blue is antagonistic to your chances, beside, your hairdresser don't understand your bumps. If you will effect some change in these matters, we shall be happy to repeat the sitting to-morrow," expansively spoke the lynx.

Shadows crept up the wall and the sun dropped behind a purple cloud. My high-built hopes dropped with him as I returned to the bosom of my family.

Spriggins rose to the emergency, meting me sympathy and encouragement with the wing of the *yearling*, as we sat over our late dinner discussing the disappointments of life, especially the trials of photography.

"Never say die, my Juno; the fault is in the change. Go to-morrow and prove the man a bungler."

Watching two nights with an idea is not nearly so interesting as sparking. One—two—three—mournfully tolled the tower-clock. O, the darkness; O, the misery! How the window-shutters banged and the top-button at my throat choked. How exasperatingly *somebody* sno—slept. Yes, indeed; how impudent in that fellow to yank my chin, and snub my blue and my hair. I would do as I should please about it. That was a happy conclusion to come at, as it could not be disputed, and thus ended the controversy.

It was a bleak unpromising morning. Not a ray of hope in sky or breast. It took a deal of bathing, and towelling, and pink-saucer to tone up after the wake, so it was nearly midday ere the brown-silk umbrella and I pointed noses toward that

place whence issue shadows only of the substance that enters.

The dark day was telling on custom, as nobody had ventured out but one doting mother, who sat with tears in her eyes, tying up her new baby into hard knots, declaring the precious lamb had wiggled on fourteen plates. This doting mother and one teetering female, who toed and heeled, rose and fell to the rhythm, seemingly, of an inward hand-organ. It was the eighth proof she was returning—not suited yet. They all had been tested at the sewing society and taken to prayer-meeting, not a soul knew them from a Malay native. Already it had cost her, beside her time, sixteen fares on the horse-cars—she had been once robbed of her purse, split out her best dress, not to mention the numberless disasters which had befallen Tommy in her absence.

These were fellow-sufferers in common trouble with myself. My heart beat in sympathy. Tears choking my voice, I asked the poor mother, "Did he tell you to change the style of its hair, and come to-morrow?"

Very obediently mine had been cared for, studying the bumps and the lack of them, though grinding my teeth at my mentor the while, as I did also when he flashed round a corner and stood scowling before me.

"Dark day, madam. Didn't think you would come. Better put it off till to-morrow," he muttered.

My heart failed me. To-morrow! after all this watching and waiting, anxiety and climbing! To-morrow will be Friday, too, when all things go amiss on principle, and the cook goes out on principle, ditto. My distress was visible, almost audible.

"Please, Mr. Lynx, do try me to-day." A stone would have melted under such pathos. The woman gave me a commiserating nod, and used her handkerchief as she passed out with her animated bundle, that still wiggled.

Flinty and obdurate though he was, yet the appeal touched him. He motioned to make ready, at the same time saying "there wasn't a ghost of a chance."

Too happy to heed small discouragement,

I flew rather than walked at the heels of this autocrat of my destiny, submitting to thumbscrews and criticism with a willingness and heroism worthy the martyrs of old. All cherished ideas of attitude or even grace oozed away, leaving me only too glad to secure the awkwardest semblance.

Smiles of derision swept through my soul as I recalled, for an instant, the ideal pictures wrought by fancy in the little red rocking-chair by the window at home. Innocently enough, I then asked, "Shall I represent modern or antique style? Or shall I found myself on Malibran, whose beautiful statues serenely beamed from Cromwell's prolific screen the other night? Should it be tragic or comic?" I had but to choose, so blissful ignorance whispered. Thus we proceeded and coned, settling it a long time before.

It still lowered, the rain falling fast and ominously on the broad stretch of glass, seeming to wash out the last lingering possibility of success.

Well, after struggling against difficulties for a prolonged time, interspersed with woful ejaculations and a terrible crash of bottles, emitting suffocating odor, when hope was about to die and everything go to the bottom, suddenly the clouds broke away, and the strong welcome light most unexpectedly enveloped us. In the hurry that ensued to "make hay while the sun shines" all was bustle and bumping.

Activity asserted itself in this Lynx and his associate, both spinning round me like lunatic tops. The curtain and spread, and the little round table,—inevitable traps,—were pitched speedily into array, my dumb head squeezed into the jaws of a gripping vice,—all in a twinkling. All minor matters were at discount in the exigency of the occasion; so the too faithful sun stamped irreparably an anxious face, a twisted collar, and a nose in exaggerated relief, whose enormity no charity could mitigate.

It was the last chance, forsooth, the final trial; the only return for all this hoping, journeying, clambering, and exhaustion.

Two weeks thereafter, in which time, with the help of iron tonic and three doctors, my prostrated system had rallied, a

small sprig brought the proof. It was as though I carried the burden of an Atlas, so solemn and apprehensive its aspect. With many misgivings, it was submitted to Spriggins, since for him had been all this warring with the fates.

"Oh, Juno!" he exclaimed, with theatrical gesture, "he caught thy nose, but not thy soul."

"My dear unsophisticated Spriggins," I returned, "he caught what there was. I had no soul more than a mummy. Think you a soul could stand pinchings, and blinkings, and ogling's two mortal days? But don't despair; it's to be retouched, and a soul put in. *Retouched*, Spriggins, whatever that is."

This brief summary of the sitter's trials is but a feeble first cousin to what they would be if given in detail. The fluctuations of our hopes and fears, subject as we are to the moods and tenses of these despotic photographers, would fill your Journal.

However, we will trust these few hints may prove efficacious in giving sight to your other eye, so that *our* wrongs may be sometimes espoused, and your consolations and recipes impartially tendered.

JULIE.

TRANSPLANTINGS.

BY DAVID DUNCAN.

PHOTOGRAPHIC processes, like roots and bulbs, rarely lose anything by being judiciously transplanted. Yea! in many instances, they improve and thrive better than in native soil. Even as men by emigration find the groove for which they were fitted and so move easily to and fro on the "tramway of life," photographic processes or improvements, little appreciated, or, perhaps, discarded in the country they originated in, by being transplanted like the flower, bloom with a brighter hue, exhale a sweeter fragrance, or, by being nurtured and cultivated by foreign devotees, like the transplanted root, grow and flourish until the fowls of the air lodge in the branches thereof.

It is not necessary for me to cite the many instances wherein processes and novelties have become indispensable to the photographic business at large, only by being re-

moved from one country to another. The collodio-chloride process, cabinet cards, photo-lithography, and a host of improvements from France and England, are now practised in this country in a manner which cannot be excelled.

The Woodbury process, albeit a failure, as yet, in England, is a success in France, and will carry all before it in a photographic point of view in this country.

The Sarony photo-crayon process, in the hands of Messrs. Lambert, is travelling fast through the American and Canadian photographic world, and is already practised to perfection. It is gratifying to see the many specimens exhibited by the best photographers in the principal cities in so short a time. No wonder at that, however, for the *modus operandi* of the process can be successfully performed by any intelligent operator. The pictures, when produced, are, indeed, pleasing and flattering, yielding "soft pictures" from hard "chalky" negatives, selling readily, and all without putting the purchaser of the process to extra expense. Not being "transparencies" but PRINTS, they are speedily made, so that they could be delivered while a customer is waiting for the next train. The lithographic effect on the paper mounts is, by no means, inartistic, and various effects can be produced by different-colored crayons. Nor is the process confined to paper alone. The photo-crayon, applied to ground opal glass, is enhanced both in artistic and commercial value.

American photographers, I observe, are about to be introduced to "Ross lenses." May they welcome them with open arms! They are, doubtless, the *ne plus ultra* of lenses, made under the personal supervision of a skilled optician, whose father, the late A. Ross, was the most skilful optician in his day, and had a name famous in the early days of our art. I would prefer the lenses made by Mr. Thomas Ross before any that I know, having used them (I speak with confidence), during my varied photographic experience. I have taken pictures with "tubes" made by French, English, and other makers, yet I never could obtain such UNIFORM results, combined with sharpness, brilliancy, etc., as a "Ross lens" enabled

me to do. How dearly some skilled English photographers prize a lens made by Ross!

I feel I should like to make some further remarks on the Woodbury process; space, however, forbids. The above novelties on this side of the Atlantic will do much to improve and enhance American photographic art, for here all things good and practical fly through the land with electric speed, and ripen like fruit in the tropics.

KURTZ'S CONE BACKGROUND.

THE advantages of graduated backgrounds, and means of securing gradation in the same, has occupied a good deal of attention recently and we have pleasure in describing an apparatus that secures the coveted result perfectly. At the last exhibition of the American Institute, New York, Messrs. Waters & Son, Troy, N. Y., exhibited some very novel boats made out of papier-maché. They attracted the attention of the ingenious photo-artist, Kurtz, and he queried, "Why not something like that for a background?" He applied to Waters & Son, and by his aid they succeeded in making all that one could desire. We have seen it in operation, and describe it below.

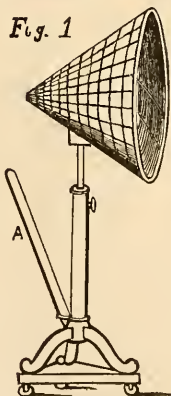
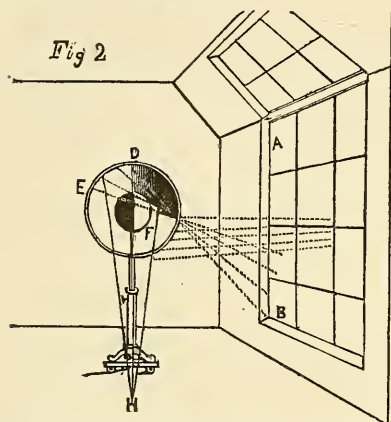


Fig. 1 represents it entire. The background is six feet in diameter by three feet deep, mounted on a rod which fits any ordinary head-rest stand; the latter is fastened to a wooden platform on castors, and is furnished with a handle, A. As the whole affair weighs but a few pounds, it can

readily be moved and adjusted to any part of the room or light. The interior is painted or sanded to any degree of shade desirable. It will be readily understood that any light coming from one side, must illumine that part of the interior furthest from it, and per contra leave the nearest side in comparative shade. By turning it full to the light, there is no shade, and you get a very light background, and upon turning it from the light, you get it *almost black*, if you wish it so. An example of its peculiar and extraordinary effect will perhaps be better understood by contemplating Fig. 2.



Let A B represent the side-light, D E, the background, F, the sitter's head, and H, the camera. Now you plainly notice that the rays of light from the window A B, illumine only about that portion of the background at the left of the line D, whilst the portion at the right of D is left in its own shadow. Now as the light falls on the sitter F, the side turned towards the light only is illuminated. The sitter, as viewed from the camera in the direction of H, has the high-light F admirably relieved by the darker portion, whilst the shadow part of the sitter is as well relieved by the lighter portion of the background.

It must be self-evident at a glance that no matter from what direction your subject is lighted, the background immediately assumes the opposite lights and shades, and an extraordinary relief is at once obtained. By a little judgment and management it can be made exactly suitable for all complexions, and in the case of a group of two,

the darker person should be placed against the lighter portion of the background.

So numerous and variable are the beautiful effects produced, that the desire to use this affair increases with its application.*

OUR PICTURE.

OUR readers have doubtless been much interested, recently, in the description and drawings of Messrs. Loescher & Petsch's skylight, etc., in our March and April numbers, and have probably wished that they might see a picture made by those celebrated artists. This pleasure we are glad to give them, our picture this month being from negatives made in their studio. It is a grand study in every respect, both in composition, lighting, exposure, and development. We hope it will be studied.

The prints were made in this country by Mr. William H. Rhoads, No. 1800 Frankford Avenue, Philadelphia, and do him great credit. They were made on Sulzberger & Mater's Dresden Royal albumen paper, for which Messrs. W. H. Mardock & Co., No. 417 Broome Street, New York, are the agents. The prints praise the paper more deservedly than we can.

Mr. Rhoads speaks very highly of it, and worked it by the same formula published by him in a recent number of this Journal.

Our next issue will be graced by a beautiful "*Rembrandt*" picture.

VOICES FROM THE CRAFT.

DEAR SIR: In your March issue your correspondent "Roland Vanweike" says: "Every photographer is supposed to possess sufficient ingenuity or constructive ability to arrange those things (curtains, etc.) so as to get his light where he wants it, and to be able to regulate it according to changes that may occur during the day. If he has not, he had better get somebody that can do it for him, or else get out of the business."

I have been in the photographic business eighteen years, and I know no other (don't

* The cuts for this article were hastily made, but we hope they are understood.—ED. P. P.

know this very well), but I dislike to leave it very much. Should I take his advice, I should sell my "traps" at auction, and leave for parts unknown.

How many of the eminent photographers in both this country and Europe, if they were asked, "Can you arrange your light at all times of the day, for all your subjects, and please yourself?" would say "Yes?" Not but a very few, I think. Perhaps you might find now and then one who thinks he knows everything, and would say: "Oh! yes, I never have any trouble; I always please them and myself the first time." When I meet one of that class of operators, I always set him down as not knowing any more than he ought to.

Not long since, I had a lady subject of very good address, medium size, thirty-five to forty years old, not a hard subject to look at through my optics, dark blue or hazel eyes, not much "vim" in them; to be sure her complexion was not very fair, neither was it very rough or disagreeable. I at once went to my task, not thinking it was a task in its strongest sense. I arranged the light, angling, half-skylight and half-side-light, and sat my subject about three-quarter view, having the dark side well delineated, and eyes turned pretty well away from the strong light. I couldn't find a pleasing line of her face any way. I finally made a negative as above. It was well-defined, and made a very vigorous print, and as disagreeable as it was vigorous, for it was mottled all over the face. This mottling or dark spots appeared to exist under the cuticle, and was not apparent to the natural eye. I spent some time trying to find something that looked like a plausible picture, but all to no purpose. At last I tried a "Rembrandt," and that was no better. Had Mr. Vanweike been here, and said, "Get out of the business," perhaps I should have done so as far as my feelings were concerned at that time. But I never say die, therefore I couldn't give it up.

I shut out all the sky-light and used the side-light only, turning the face slightly away from the light, and having very soft shadows, I got a very fair negative, and the lady was well pleased with her pictures.

I account for the getting rid of a part of

the roughness of my picture in this way: those very minute globules of blood existing between the cuticle and true skin, did not absorb so much light, or cast the same amount of shadow when the light was received from the side as from overhead.

I shall be in Cleveland next June, nothing in Providence preventing, and shall be pleased to see Roland Vanweike and his Focus.

WESTLEY.

BANGOR, March 12th, 1870.

DEAR SIR: I have to thank you for drawing my attention to the Holyoake Card-mounts. They have been in use at my rooms for some months, and are a success. The effect is very beautiful indeed.

I merely want to commend them to your readers, and suggest to the manufacturer that he make larger sizes—say cabinet and whole size any way.

If I dare presume so much, I would also be glad, if you would give us an example as your illustration some time.

Truly, your well wisher,

LIVINGSTONE.

MR. EDITOR: We are now working the new Photo-Crayon process, and we are practically convinced that there is money in it. The process is easy, and the results are beautiful and artistic. Although the Photo-Crayon Portrait is finished in a few minutes, and at only a nominal cost, they sell easily at \$15.00 apiece.

We feel it is our duty to recommend this beautiful process to the fraternity, as being a good means to give a new *impetus* to the trade. We hope that the prices will be well kept up, as it is a vital element of success in working this artistic process.

E. L. ALLEN,
Pres. of N. E. Photo. Ass'n.

J. W. BLACK,
Vice-President.

FRANK ROWELL,
A. MARSHALL.

Boston, April 12th, 1870.

AFTER varnishing a plate, keep it horizontal a few seconds before pouring off, to give the varnish time to soak in.

CLEVELAND.

The Exhibition and the Annual Meeting.

IF our readers would heed it, we could say all we want to them on this subject in one word, *i. e.*, GO! But as we would probably be met on all sides with the query, "*Why should I?*" we suppose we shall have to urge upon you all a few reasons "why" we believe it will pay you to make a considerable sacrifice of time and money to be at the second great National Meeting and Exhibition of the photographers of your country.

You are engaged in a profession which is unlike anything else in mechanics, the arts, or the sciences. You cannot turn out your productions by the *mill*-full by automatic machinery, nor can you mix your solutions and set them aside to crystallize into "pleasing portraits." You have the most irregular, uncertain, obstreperous, patience-trying ingredients to manage, delusive instruments and all sorts of weather to test your amiability. Moreover, you are so scattered about the country, that in most cases, when in trouble with your manipulations, you have no one to confer with, and you spend a great deal of time, and patience, and money beating about in the air, because you do not know when and how to act.

How, then, are you to better your condition in this respect? We answer, by joining earnestly in these annual *conferences* of the members of your profession. If you would gain information you *must* go where they are. If you would *know* men you must go where they are and *mix* with them. If you would know how others battle with difficulties and how they overcome them, you must go and talk over the thing with them. You must learn their ways, to think their thoughts, and to be stirred with their feelings. If you would live by your profession you must go where you can study its best productions and confer with its best workmen. You must search out the great highways and emporiums of success. If you would move the world you must stand upon it. If you would grow, and improve, and prosper as rapidly as does our beautiful art, you must take advantage of this great annual National *opportunity*!

When a lad we were told by our employer, that if we ever expected to *know* anything we must *ask questions*. It was a good lesson that we have never forgotten, and, although born early in life, we have not learned our profession yet, and quiz everybody we rub against. Come you to Cleveland and do the same thing.

The meeting this year will assume a more *practical* turn than did the Boston meeting. The latter was *preliminary*, and much of the time was spent in arranging for the future.

This year practical discussions will be held, experiments made, processes worked and explained, causes of failure made plain, and the road to excellence opened wide, and so on and so on.

Dr. VOGEL, whose name is well known to our readers, is probably, at the time you read this, on his way to this country, specially to visit the Exhibition. This is a fine compliment to us, and we hope both Germans and Americans will be there in great numbers to greet him. We expect he will give some very valuable information to all, concerning the workings of our art in Germany. Mr. Carbutt is expected there to work the Woodbury process. It is hoped to have the photo-lithographic process worked there also. There will also be several other matters exhibited that will interest, entertain, and benefit all much: a superior lantern exhibition, with the new electric light, by Messrs. Black and Dunmore, and other things on a grand scale.

With these will be the greatest feature of all, the *Exhibition*. It will embrace the best work that our country can afford from all quarters: from Canada, England, France, Prussia, Austria, Russia, Italy, Spain, and even Turkey and some of the islands of the sea. Exhibitors are allowed to bring duplicates of their pictures for sale, and will find it well to do so.

The Local Secretary, Mr. Ryder, has engaged for the Exhibition the new "Central Skating Rink," which is immense in size, is admirably lighted, and will make a grand appearance.

Is not all this most tempting, and do you not see what a benefit it will be to you to be there? We have letters from parties

from Texas to Canada who will be there. *They will be repaid.* It is a privilege that should not be refused. The question has been asked us, "Will the *ladies* be admitted?" We answer yes, most certainly. We know a number of ladies who are practical photographers, and we are not certain but we know of one or two who work at the camera while the husband cleans the glass and pastes on the sticking-paper. And there are hundreds of good women who spend their whole time in assisting their husbands on their road to photographic fame, and, in some cases, they are the best man of the two. By all means let them come and *vote* too, if they are members of the Association.

And now this brings us to a point: *Are you a member of the Association?* If not, identify yourself with it before you go to Cleveland, and *join now.* Four dollars sent to Mr. H. T. Anthony, 591 Broadway, New York, will pay your entrance fee and dues. Two dollars will do the same for an employee. That you may have the advantage of a reduction in your fare and in your hotel bill this is necessary, as some of the railways only favor *members* of the Association. *Attend to this at once, now,* male and female. Your extra privileges will more than pay the fees and dues, and you will then be enabled to take part in the business meetings of the Association and vote.

The committees appointed last year have not been idle. The Committee on the *Benevolent Fund* are at work, and will have a report which will most likely benefit and interest all there. The committee to intercede with Congress have also success to report. The subject of a Photographer's Life Insurance Band is also to be discussed, and many other such *practical* matters.

Be it remembered, that photographers, whether members of the Association or not, are welcome to come *en masse.*

Bring a good supply of your *cartes* along to exchange with others.

The Local Secretary, Mr. J. F. Ryder, has secured a reduction in railroad fares, hotel charges, expressage, etc., etc., and the following is the way matters stand up to the time of our going to press. In about five days you will receive a circular giving

you further information; after that you must apply to the Local Secretary, but do not write him if you can help it, as he will have his hands full.

ARRANGEMENT WITH HOTELS.

The (best two hotels) Kennard House will charge \$3 and the Weddell House \$2.50 per day, and others lower. Where there are several parties going from one city or section, if they will address Mr. Ryder *ten days beforehand*, he will secure them the accommodation they need.

ARRANGEMENTS WITH THE RAILROAD COMPANIES.

We have, in connection with Mr. Ryder, spent a great deal of time in corresponding with the passenger agents of *all* the railroads that we thought could aid us. With many we could do nothing. They cannot yet see that it is *to their advantage* to favor us. Some day they will, we hope. The following is the best we have been able to do so far, and if it does not help all who want it, be assured it is not our fault, for we *tried every* railroad that we thought could aid us, as we have before said. Those on the line of, or who connect with, the roads mentioned below may secure their tickets at reduced rates by obeying directions given.

1. *Philadelphia and Erie Railway*, running from Philadelphia to Erie, Pa., and intervening places. Write to J. F. Ryder, Cleveland, Ohio, Local Secretary, who will send you an order on the ticket agent at your place for an excursion ticket at the reduced rate of two cents per mile to Erie, Pa. There you change to the *Lake Shore and Michigan Southern Railroad*. See No. 5.

2. *Pennsylvania Central Railroad*, Philadelphia to Pittsburg and intervening places. Write to Local Secretary for order for an excursion ticket. Fare two cents per mile both ways. At Pittsburg change to *Cleveland and Pittsburg Railroad*. See No. 4.

3. *Cleveland, Columbus, Cincinnati, and Indianapolis Railroad*, from Indianapolis and way stations to Cleveland, and from Columbus to Cleveland via Crestline. Passengers via this road, will pay *full fare going on.* On their return the Local Secre-

tary will furnish them with a *return ticket free*.

4. *Cleveland and Pittsburg Railroad*, from Pittsburg to Cleveland, connecting with Pennsylvania Central (No. 2), will give excursion tickets at the rate of two cents per mile. To be had at the Pittsburg Depot. Distance 150 miles.

5. *Lake Shore and Michigan Southern Railroad*, from Buffalo to Cleveland and intervening places—connect at Erie, Pa., with the Philadelphia and Erie Railroad (No. 1)—will issue excursion tickets at the following rates: will charge full regular fare going on and one-third regular fare returning. Tickets can be had at any of the stations going on, and the Local Secretary will furnish certificates to those returning, which will secure their tickets at the reduced rate.

6. *Erie and Atlantic and Great Western*, New York to Cleveland, via Binghamton, Elmira, Corning, Hornellsville, Salamanca, Meadville, etc. Full fare going on, and return at half fare. Through without change of cars. *The line for New York and New England Photographers*. At Cleveland, the Local Secretary will furnish you a certificate, entitling you to return at half fare. Round trip from New York to Cleveland costs about \$22.50. Time 24 hours.

Photographers from New England purchase their tickets at foot of Chambers St., New York. Return tickets will be issued until June 27th, through the kindness of the G. P. Agt., W. R. Barr, Esq., New York, and N. Van Horn, Esq., Philadelphia.

7. *New York Central Railroad*, Albany to Buffalo, via Utica, Rochester, and Buffalo, and there connect with Lake Shore and Michigan Southern Railroad (No. 5). Fare two cents per mile both ways.

8. *Pittsburg, Fort Wayne and Chicago Railway*—Chicago to Cleveland via Fort Wayne, Crestline, and Alliance, two cents per mile. Orders for excursion tickets to be had of the Local Secretary.

9. *Chicago, Rock Island and Pacific Railway* via Omaha, Council Bluffs, Iowa City, Rock Island, etc., to Chicago—thence to Cleveland via No. 8—sixty per cent. of regular fare both ways. Orders for excursion

tickets may be had of the Local Secretary.

10. *Little Miami Railroad*, from Cincinnati or from Dayton—either—to Cleveland. Fare two cents per mile each way. Apply to Mr. Ryder for orders for tickets.

11. *Great Western Railroad, Canada*. Arrangements pending. Apply to Mr. Ryder for orders for tickets.

This is as much as we have been able to secure, but we hope to do more. Parties who want to go should address a note to the Local Secretary as follows:

DEAR SIR: I wish to attend the Cleveland Meeting, and if you have any orders for tickets that will favor me, please send one by return mail, and oblige

I am (or not) a member of the National Photographic Association. I start from ———, on the ——— Road.

Mr. J. H. Fitzgibbon, Treasurer of the St. Louis Photographers' Association, has desired us to say, that parties starting from St. Louis, or who take it in their route, will please apply to him for tickets, as he has arranged, through the kindness of Jno. S. Garland, Esq., the General Ticket Agent, for half fare from St. Louis to Cleveland, over the Indianapolis and St. Louis Railroad. Round trip \$25. St. L. to C.

When you get your orders from the Local Secretary for tickets, you will observe that they are only good for a certain number of days. We have got the time extended before and after the Exhibition as long as we could. Parties who live on roads connecting with any of the above, may obtain tickets at the connecting point, the same as if they lived on the line of the road.

Many thanks are due to the railway companies who have so generously favored us, and we hope all who travel or send freight will remember them hereafter.

☞ Mr. Black requests that parties having interesting or instructive subjects will bring transparencies with them. He prefers $\frac{1}{4}$ size. They should not be made too dense, and free from dirty varnish spots. Bind to plain glass with sticking-paper. Tone with hyposulphite of gold, weak solution of permanganate of potash, or bichloride of mercury.

THE PHOTOGRAPHIC WORLD.

READ the several articles on the Exhibition in our current number.

M. DUCOS DU HAURON has published a pamphlet entitled *Photographs in Colors*.

PYROGALLIC Acid is said to be as deadly a poison as Cyanide. Oil of turpentine is an antidote.

THE Photographic Society of Vienna contemplates holding a World's Photographic Exhibition in that city.

ADAM SALOMON writes to Mr. Simpson, that he intends to abolish curtains in his studio altogether, his experiments have convinced him that he has found a system of illumination which will give excellent results without curtains or other similar arrangements.

Scientific Opinion says, "Telegraphs, railways, and huge ocean steamers, are every day removing the old barriers of nationalities. Nowadays, the connection of arts and sciences between this country and 'the States,' is almost as close as it was between England and Ireland, twenty years ago. The National Photographic Association of the United States is an illustration of this." It then follows with an invitation to foreigners to join us in our exhibition. This is handsome on the part of our esteemed contemporary, and is the more courteous and kind, because it was unsolicited.

THE *Photographic Art Journal*, a copy of which has been sent us by private hands,

makes a very handsome appearance in its first issue. It contains three illustrations on sheets $9\frac{1}{2} \times 12$: 1. "Return of the Flock," Woodburytype copy of a painting by Jague; 2. "The Nativity," a photographic engraved copy by Edwards, of Derers' celebrated engraving; and 3. "View from Nature near La Grande Chartreuse," from a collodio-albumen negative; also printed by the Woodbury process. The letter-press is mainly by the editor, Mr. Thomas Sutton, and consists of a "Leader; Our Illustrations; Review of the Progress of Photography during 1869; A Week at the Woodbury Establishment at Asinere's; Amateur Photographic Association; Exhibition of the French Photographic Society for 1870; United States National Photographic Association (which we are glad to see); and Reviews." We wish the new enterprise great success.

WHEN sun painting was first introduced, some wag declared that it would be a *foe-to-graphic art*; but, as yet, it has been a help rather than a hindrance to graphic art. Artists have sought its aid, and the consequence is a greater fidelity and truthfulness in the representations of many subjects. Photography has arrived at something like perfection, for it is announced that a discovery has been made, viz., the printing of photographic pictures in permanent pigments, or ordinary printer's ink, at an ordinary printing-press. This has been accomplished, and very successfully too.—*Every Saturday*.

Editor's Table.

TO CORRESPONDENTS IN TROUBLE WITH THEIR MANIPULATIONS. — We shall be much pressed during May and June with matters pertaining to the National Meeting and Exhibition, and shall not have time to answer correspondents *privately* on matters of manipulation, as we usually gladly do. Please remember this.

DIX VOGEL'S VISIT TO AMERICA. — We are sure that every photographer who expects to be in Cleveland, will be delighted to know that Dr. Vogel will be there. We know he has many

friends in this country, and warm ones. The following correspondence was had by Atlantic cable:

NEW YORK, April 8, 1870.

DR. VOGEL: — You are respectfully invited by the photographers of America to attend the Cleveland Exposition in June.

W. KURTZ.

Sec. of Com.

Answer:

BERLIN, April 12, 1870.

I shall come.

VOGEL.

Let us be there and give him a warm welcome, so that he may take home with him a good re-

port of American photography and American photographers.

WE again have to run eight pages over our usual number—40 in all—on account of press of matter. Few magazines give *more* for the money than is promised. We hope our readers will appreciate the fact in our case.

MR. WILLIAM NOTMAN, Montreal, has favored us with a print of his last composition picture, "The Skating Carnival." It contains the picture of H. R. H. Prince Arthur, and many of the most eminent citizens of Montreal. It is an admirable study in composition, and that our readers may have the benefit of it, we have arranged with Mr. Notman to print it for a future issue of our Magazine.

COLLODIO-BROMIDE PICTURES.—Our esteemed correspondent, M. Carey Lea, Esq., has favored us with some very beautiful 8 x 10 landscape prints, from plates made by his collodio-bromide dry process. The remarkable feature about them is, the entire absence of that harshness and hardness which generally characterizes dry plate work. On the other hand, they are soft, delicate, fine in detail, and wonderfully transparent in the shadows. One of the views is of a stone arched bridge over the Wissahickon. At the time it was taken it would have been a severe test for any process. The bridge being low, is very dark underneath; back of it is bright sunshine, stones in the distance, and water in full sunshine, and yet there is detail in all and no harshness. It seems almost paradoxical. A Steinheil 10-inch focus lens was used to make the view. Mr. Lea has worked most perseveringly at his process, and these views certainly commend it most highly.

THE YEAR BOOK OF PHOTOGRAPHY.—This excellent book has now arrived, and the name of its editor, G. Wharton Simpson, is sufficient to guarantee a *valuable* and *useful* work. Mr. Simpson has exceeded himself this year in getting together, into small space, an unprecedented amount of good from the most eminent practical photographers in England, France, Germany, etc. As will be seen by the summary of contents in the advertisement, it is composed of short, terse articles on almost every photographic subject of interest. It is in size same as our *Mosaics*, and same price. It is for sale by all dealers, and as only *one* thousand copies are imported, those wanting it must be spry. A few of 1869 copies also for sale. Please read the advertisement.

THE case of the Shaw & Wilcox Co. v. G. W. Lovejoy was argued in court on April 21st, and placed in the hands of the judge. We can only now await his decree, which we feel sure will be just and right. If it be against the patent, our readers will have great cause to rejoice, for they will have escaped an infliction that would be hard to bear. If the patent is sustained, the only mercy you will get from the monopoly will be such as you are able to secure by your own efforts. We really thought there was more interest in the matter among our readers than there appears to be, judging from the little help offered Mr. Lovejoy.

DR. WOODWARD's report on the Magnesium and Electric Lights in Micro-Photography, a copy of which has been kindly sent us by the Surgeon-General U.S.A., is an elaborate work, illustrated by several admirable specimens. Dr. Woodward has made some very extensive experiments in that enchanting and useful branch of photography, and we shall soon take occasion to make some extracts from his report which will interest our readers.

THE TORONTO PHOTOGRAPHIC SOCIETY.—We have received from its worthy President, Eli J. Palmer, Esq., a history of the rise and fall of the Toronto Photographic Society. It was started a few months ago under the brightest auspices. Decent living prices were agreed upon, and all went on pleasantly until some of the number became demoralized, broke ranks, put down prices, and thus broke up what would have been a pleasant, profitable affair to all concerned if kept in its integrity. We regret that such is the case, and hope, with Mr. Palmer, that a reorganization will soon follow. Mr. W. M. Bruce read a very interesting paper at the last meeting, from which we hope to make extracts hereafter.

THE PRIZE SETS.—Photographers who understand the advantages to be derived from studying the work, good and bad, of others, will not forget that the prize sets are offered at a very low price to enable them to study them. They are more useful than almost anything else, for they educate the eye and enable one to see what to avoid and what to imitate. See advertisement.

PHOTOGRAPHERS burned out: S. W. Sawyer, Bangor, Me., March 19th; R. Emery, Plymouth, O., March 31st; M. Moses, Trenton, N. J., March 23d.

PHOTO-CRAYONS.—Mr. A. E. Alden has favored us with a number of new patterns of sheets for the Sarony photo-crayons which are very different from the ones first sold. Our Philadelphia artists who are making photo-crayons are getting exquisite results, exceeding any we have seen anywhere else, even those from England that we have seen. Mr. Fennimore, Mr. Germon, and others, are pushing them, and make a fine display. In good hands they seem certain to succeed. As we have said before, they must be *made* well, to *look* well, but in this they are not peculiar. The price should be kept up in proportion to their beauty. They cannot be compared to any other style of picture, for they are entirely different in appearance and style.

RECEIVED from F. W. Hardy, Bangor, Maine, some admirable "Rembrandt" pictures; from E. H. Alley, Toledo, Ohio, an 8 x 10 group of the Central German Conference—80 portraits in all. Mr. Alley states that he has sold about 1000 copies making 80,000 portraits; from Austin & Oliver, Oswego, New York, a very fine cabinet portrait; from T. T. Sweeney, Cleveland, Ohio, a 12 x 16 view of Rocky Gorge, Elyria, Ohio, which is admirable. The water seems as still as death, and consequently the reflections are grand. We have never seen it excelled in a picture of its size; from Mr. John L. Gihon, a capital 13 x 16 picture, full length, of Miss Lizzie Price, the accomplished actress; from Mr. A. K. P. Trask, 40 N. Eighth Street, Philadelphia, some admirable ferrotypes; from Mr. O. G. Mason some fine stereos of small objects made after instructions given by him in *Mosaics*, 1870. Some of bromide of potassium in different stages of crystallization are beautiful. There is a wide field for the stereo in this line; from Mr. A. Bogardus, cabinets of "Josh Billings," Prof. Morse, and William Cullen Bryant; from Mr. J. A. Schoeltn, St. Louis, some capital cabinets of Masqueraders, splendidly managed.

Mr. W. R. Gill, Lancaster, Pa., has sent us a number of very beautiful stereographs of views near Lancaster, from negatives intensified with his "chromo-intensifier." There is a very peculiar softness and aerial effect about them which is very charming and desirable.

MR. J. INGLIS, Montreal, has sent us a composition picture of the "Opening of the Montreal Caledonian Curling Rink," which is one of his most creditable works, and is very popular. He furnishes a list of the portraits in it, which comprise the elite and talent of Montreal, Prince Arthur with the rest.

MR. E. F. WARRINGTON, a promising young photographer of this city, died April 22d, of heart disease. He had been ill a couple of weeks, and it was hoped he was going to recover. He was genial and pleasant in his life, and his death is regretted by many.

ANSWERS TO CORRESPONDENTS.

"A. R.," GREENSBURG, INDIANA.—The cause of your collodion "giving way under the developer" is this: Your bath is super-saturated with iodo-nitrate of silver, which settles on the plate. Dilute your bath to one-third its strength and then boil it until its wonted strength is resumed. A good sunning would be efficacious also, if you have another bath you can use.

"E. J.," MANTINO, ILL.—You do not state what *kind* of "red spots" appeared on your paper. If in the shape of "tear drops," then your silver solution is too strong. If so, adding water one-third, and boiling down to former strength is the correct remedy.

"GEORGE H."—If you "get plenty of detail but no force," as you say, you evidently over expose your negatives. For transparencies your collodion should be very ripe and somewhat red. Developer, 32 ounces of water; 64 grains pyrogallie acid; 32 grains citric acid; 2 ounces acetic acid; alcohol 1 ounce. Try this.

"S. P. G."—1. Your wash water contains either chloride or carbonate, which deposits silver on your prints. Use distilled water for the first washing, or add a little salt before immersing the prints.

2. The "blue" color of your prints is owing to too long fuming.

3. The turning red of your prints when put in the hypo, is caused by insufficient toning—the toning solution has not penetrated the prints. Use less gold and tone more slowly.

"J. T. H. BROWN," BROCKPORT.—Pictures have been made of various colors by Niepce, but no one has yet succeeded in producing them according to nature. See German Correspondence.

"W. W."—Unless you have experience, you had better send your residues to a practised refiner, or you may proceed as follows: Mix your gold residue with 12 to 14 ounces saltpetre to 16 ounces of residue. Put them in a crucible, being careful to fill it only half full. Expose to a bright red heat and nearly pure gold will result.



Portrait of John Jay 1850

W. KURTZ

NEW YORK



T H E

Philadelphia Photographer.

Vol. VII.

JUNE, 1870.

No. 78.

Entered, according to Act of Congress, in the year 1870,
By BENERMAN & WILSON,

In the Clerk's office of the District Court of the United States for the Eastern District of Pennsylvania.

THE EXHIBITION.

WE have hastened our current number a little, in order to have an opportunity to say once more to our readers, in reference to the Cleveland Meeting and Exhibition, *Go! you will never regret it.* It will be a most brilliant affair, full of instruction and profit. The recent triumph over wrong, in the matter of the Shaw & Wilcox Co., should convince those who are not asleep, of the importance of the photographers of the United States banding themselves together in order to maintain their rights, and that there is something in the *existence* of such an Association that will have the effect to head off and prevent any more attempts to take advantage wrongly of the profession.

We are glad to see that a number have connected themselves with the Association since our last issue. In union there is strength. Our Association virtually defeated Shaw, though no official action was taken by it in the matter, but it defeated him nevertheless, for the existence of such an Association prompted some of its members to fight vigorously for the rights of all. We shall have no more fights if we *unite*, for our *unity* will scare away the brazen, brow-beating, threatening, would-be swindlers. They will not attempt their tricks on us, but turn their mighty genius into a different channel.

Unite with the Association now, and come to Cleveland and see how nicely it works. Cheer up! a bright day approaches. Only *work* for it.

The regulations, etc., pertaining to the Exhibition have been given you in our last, and, since then, in a circular sent to all. There has been no change. We hope to meet hundreds of you there, and to see you hand to hand and face to face.

DR. VOGEL.

As we announced in our last number, at the Cleveland Exhibition the most distinguished guest will be our esteemed friend, Dr. Herman Vogel, of Berlin, Prussia.

Those who have been in the habit of reading Dr. Vogel's contributions to our pages, have not failed long since to see that he is one of the most earnest and enthusiastic friends of photography in the world; in fact, we are free to say there are none more so. We have many times heard him spoken of in the warmest terms, and always took pleasure in frankly reciprocating the same.

That he truly feels likewise towards America and her photographers, Dr. Vogel has often assured us. As a proof of their devotion to him, a number of our friends, headed by Mr. Kurtz, of New York, have privately invited Dr. Vogel to visit this

country and attend our coming Exhibition, offering at the same time to pay all expenses of the trip and to make him their guest while here, if he would only favor us by coming.

After consultation with the authorities of the Prussian Government, in whose service Dr. Vogel is professionally engaged, he telegraphed that he would come, and, by the time this reaches you, he will be in America for the first time, among the profession he loves and who love him.

And Dr. Vogel is not the only one complimented in this matter. *We* should all feel highly favored at his coming among us.

You are all aware that the work of European photographers receives much and deserved praise and notice in this country, for many thousands of our people go to Europe annually, and we doubt if one ever returns without some specimens of foreign photography; yet, on the other hand, we and our work are but little known on the other side, for we have no representation there. This fact is not because our work is inferior to that made abroad—the contrary is the fact—but because most travellers get their pictures made abroad while there and bring them home with them, while comparatively few of our pictures reach the Old World. We may hope then that Dr. Vogel's visit among us will work a change in this direction, and when he goes home, so let the Exhibition be, that he can speak well of us.

Let all who can, meet him in Cleveland and give him a hearty, earnest welcome. In the cities he visits he will be in charge of committees who will care for him.

Mr. William Notman, of Montreal, and Messrs. Notman & Fraser, of Toronto, have pressed him to visit Canada and to be their guest there.

We look forth to his coming as an era in American photography. He has done the profession world wide much good service, and let us give him the good, round, hearty, welcome he so richly deserves.

STUDY ART. It will enable you to find material for your camera oftentimes when without it you would have passed the other by.

A HOLIDAY NUMBER.

OUR readers will notice that our present issue has very much of a holiday appearance. Especially is this apparent in the advertising pages, our advertisers seeming to have all their flags at high mast, in honor of the coming Exhibition. We believe our advertisements are always interesting and valuable to our readers, for they must be read regularly if the photographer would keep informed on the commercial matters of his profession.

A very pretty ferrotype graces our number this month, for the double purpose of showing off the excellencies of the new chocolate-tinted plates patented and manufactured by the Phenix Plate Company (patented to secure to them their right to make exclusively, but requiring no royalty from the consumer for using them), and the beauties of the new size and style of ferrotype mat manufactured by Messrs. A. M. Collins, Son & Co. of this city. Mr. E. K. Trask, in making the pictures, has shown good taste and skill, it being no small job to make the several thousands required for the purpose.

Another display advertisement shows the several new styles and shapes of envelopes for cartes and ferrotypes manufactured by Messrs. Nixon & Stokes of this city. The number of these envelopes sold is almost incredible. Over four hundred thousand of them were sold during last month we are told by the manufacturers. They are very useful.

The next display is made by the American Optical Company, through Scovill Manufacturing Company, the proprietors of the works, pleading the undoubted merits and excellencies of their unequalled apparatus, accompanied by a full-priced catalogue of Mr. Ross's world-renowned lenses, through his American agents, Messrs. Wilson, Hood & Co. The importance of good instruments and good apparatus cannot be overrated or too often insisted upon, and should be the first things selected when purchasing an outfit. All these wares you may purchase of your regular stockdealer.

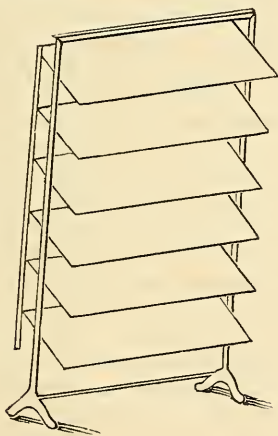
Our other advertisements will be found changed, many of them, and some new ones also appear.

We endeavor to purge them of any catch-penny arrangements, and our readers surely cannot be at sea on anything pertaining to the *commercial* branch of their business, and we may fairly judge, from the quantity and extent of these advertisements, that the photographic business generally is bright and prosperous.

With the above, our beautiful picture, our usual variety of matter, a glorious prospect of a fine Exhibition at Cleveland, and the defeat of the "Waste" patent, we feel particularly as if a gala day was with us, and hope we may impart the feeling to our many readers.

NOSS'S SIDE SCREEN.

I HAVE been annoyed a great deal, and have seen others annoyed, with the old-fashioned side-screens.



I send you a drawing of one I have substituted, and find it admirable and a great power in my hands. The cut explains the whole thing and its use. Being in a light frame, it can be readily moved about from place to place.

I *hope* everybody has not been using it since 1840, for it is a new thing to me, and I place it where *all* good things should be placed, *i. e.*, in the hands of our Journal to scatter it freely to the craft.

H. Noss.

NEW BRIGHTON, PA.

REMARKS ON SILVER DIPPERS.

BY JOHN M. BLAKE.

A SILVER, platinum, or gold wire, properly bent, would obviously make the best dipper. A plate could be taken out of the bath and transferred to the slide without the aid of fingers or forceps, and there would be no unnecessary dripping of silver solution than from the plate itself. The price excludes all but the silver. Such dippers were long ago proposed, but it is doubtful if they have been much used. Lately, the subject came up in one of the journals, and a correspondent made the assertion that a portion of copper in the silver was of no consequence.

Trial of pieces of a silver spoon, two years ago, showed a most undesirable action of the bath solution upon them. There was a solution of the copper in the alloy, with the deposition of an equivalent of silver by galvanic action. This pure deposited silver presented the peculiar surface familiar to those who have deposited copper in thick masses by electrolysis. The matter was then dropped for a time, until recently a friend had succeeded in making a dipper of a Mexican coin, which, it is stated, are made of purer silver than the American. The coin was cut into a spiral and straightened, and forged, and fragments melted on with a blowpipe, until finally a neat square bar of small thickness was produced. This was bent into a dipper, and immersed in the bath. A few minutes sufficed to cover its surface with small granular crystals of silver. As an experiment, it was laid in a dish with enough bath solution to cover it. In a few days the solution became green with copper, and crystals of silver of considerable thickness were formed upon the alloy. This treatment made the dipper brittle, and therefore of no value, although it may have removed the greater part of the copper. Bad behavior of the bath afterwards, in which the dipper had been immersed for a few minutes only, was attributed to the introduction of copper.

In order to arrive at a definite conclusion as to the amount of copper that might be alloyed with silver consistent with safety to the bath, I made several alloys of these two

metals by means of a blowpipe and an assay balance. The alloy containing five per cent. of copper showed unmistakable signs, by the deposit of crystals of silver upon it, of being acted upon by a forty-grain bath after fifteen minutes contact. Lest this rapid action should be due to an imperfect admixture of the metals, the alloy was again melted at a high temperature and hammered, then cleaned bright and remelted, and again cleaned. The deposition of silver upon it could be seen after four minutes' action of the bath. The three per cent. alloy showed a deposit of silver after half an hour in the bath. It was remelted twice and cleaned from oxide to a dead white surface in nitric acid, then washed and returned to the bath. The action was not now noticed. A small portion of bath left in contact with alloys containing eight and five per cent. of copper dried away, leaving crystals of nitrate of silver colored green by copper. This did not occur with the three per cent. alloy similarly treated.

Since the five per cent. alloy was so obviously acted upon, it will be advisable not to trust to a three per cent. alloy for the sake of economy, but rather to use silver made as pure as possible for the manufacture of dippers.

Enlarging of Photographs with the Ordinary Camera.

It is almost a general belief that a so-called solar camera is an indispensable piece of apparatus for the production of photographic enlargements. This is far from being a fact; that is, the solar camera in all its forms, whether of that of Woodward, of Shive, of Roettger, etc., in many instances, may be entirely ignored, if by the denomination *solar camera* we comprehend a condensing lens or a condensing reflector as constituting its essential character. It will be well to know, in the first place, what the peculiar characteristics of the condensing lens and of the condensing reflectors are. They are different in each case.

The property of the condensing lens is to produce a cone of light, so that the rays of light impinge upon the negative, converg-

ing, and proceed in this converging condition to the lens, whose property it is to produce the picture. On arriving at this lens, the rays are rendered more convergent, and are brought to a focus in the optic centre of the last combination of this lens. By reason of this increased convergence of the rays, on leaving the focal point the rays pass out of the lens more divergent than they entered, and thus produce a larger illuminated circle of light; that is, they increase the angle of view. Do not misunderstand me by this expression that any given object is enlarged by means of the condenser. Such is not the case. But more of the object can be seen by means of the condenser than when it is not employed. For instance, at a given distance behind the lens we will suppose that on the screen a picture is accurately focussed by means of a given lens, and that the diameter of the illuminated disc is ten inches and one-half; also, that the longitudinal diameter of the head of a portrait in the disc is five inches. This picture is produced, of course, as it always is, by means of the lens placed beneath the negative and the screen at the proper focal distance. We will now introduce the condenser into its place, and see what its effects are. Now the illuminated disc is twenty-four inches in diameter, and a larger portion of the portrait, comprehending the hands and lower extremities, is visible, but the longitudinal diameter of the head remains *exactly the same*, and in *exactly the same position*.

Furthermore, the amount of illumination on a given square inch is not materially different in the two cases; that is, for practical purposes not materially different. The sharpness of the picture has been neither increased nor diminished by the employment of the condenser. In fine, the only apparent change produced by its employment is simply to enlarge the field of view or the illuminated disc. This, I admit, is a great advantage where it is needed. It was supposed, and probably is even now supposed, that the condenser carried, as it were, the picture of the negative in the convergent cone to the distributing lens; and from the fact that that part of the cone on its arrival at this lens is reduced to a very small com-

pass, it has been argued that central stops are unnecessary, because the picture being already alone on the axis of the lens, and nowhere else, it is not necessary to exclude the peripheral parts by means of a diaphragm. Now, if the picture were located in the convergent cone, and nowhere else, and were produced by this cone, it is evident that if the convergency were altered, or the distance of the condenser from the lens were either increased or diminished, we might expect some change in the picture on the screen; but the only apparent change is simply in the size of the illuminated disc. This fact shows that the picture is independent of the condensing lens.

The condensing reflector consists of an inverted frustrum of a pyramid of four sides, so arranged as to condense by single and double reflection a much larger amount of light upon the negative than that which is obtained by the direct impact of a bundle of parallel rays from the sun; this extra amount of light increases the illumination of the negative to a great extent, and partially increases the angle of view on the screen, but not so decidedly as the condensing lens.

It appears, therefore, that the production of a solar picture is essentially independent of all so-called condensers. This being the case, then, the questions arise: 1st. Can we obtain an enlarged view by means of a common copying camera *without a condenser*, as correctly, efficiently, and rapidly as with the so-called solar camera? And 2dly. Can we increase the size of the illuminated disc without the intervention of a condenser?

Let us test the first question. Fix up a copying camera in such a manner as to be furnished with a vertical and horizontal motion, thus allowing the camera to be tilted so as to receive the direct rays of the sun perpendicularly upon the negative, and to be moved as the sun moves. Focus the picture upon the screen in the usual way, and then introduce the sensitized paper. You will find *by experience* that the printing operation will be accomplished almost as rapidly as with the ordinary solar camera. This method is, indeed, quite satisfactory;

and where the prints are subsequently to be finished by development either upon bromo-iodized or chlorized paper, the difference of rapidity between the two instruments is imperceptible.

In answer to the second question, we may observe that there are methods of increasing the size of the illuminated disc without the intervention of condensing lenses. Thus, for instance, take three different lenses, the principal focal distance of each being three inches, as one of Harrison's portrait combination, one of Harrison & Schnitzer's Globe lenses, and finally, one of Ross's stereographic doublets. Each one of these magnifies to the same extent,—produces a picture of a head on the screen of exactly the same size; but the equally illuminated disc in each case is very different. Thus, with the portrait combination it is the smallest, and with the stereographic doublet it is the largest. Thus, then, for all solar operations, the stereographic doublet lens presents itself as incomparably superior to the other two forms, and probably the best of any existing form.

Therefore take the best lens to begin with.

Secondly, the magnifying power of the stationary lens may be considerably increased by placing in front of it, and nearly in contact with it, the objective of another lens. Thus, for instance, I placed in front of my copying lens the four-fourth objective of a Jamin's view-tube; and I thus increased the illuminated disc from a diameter of ten inches and one-half to fourteen inches, and at the same time the picture of the object was magnified. The only means, therefore, of increasing the illuminated disc, without at the same time changing the magnifying power, depends upon the peculiarity of construction of the lens and upon the employment of a condenser.

Naturally, the illuminated disc can be obtained of any size whatever by simply removing the screen more remote from the lens, a plan which I excluded from contemplation by fixing the screen at a given distance.

Now photographers will do well to study the whole use of their lenses, and they will then learn that exquisite enlargements can, by the method just recommended, be made

with a small bath on a quarter plate, so as to cover an eight by ten plate very correctly.

A copying camera mounted as directed is excellent, too, for copying daguerreotypes, tintypes, ambrotypes, engravings, etc.; indeed, much superior to a camera that is stationary (of course, I refer to the system of copying by the direct rays of the sun, which I regard by far the best). But why superior?

Take, for instance, a daguerreotype and place it in the focus of the lens, and turn on the light of the sun. This is done by wheeling round the camera so that the sun's light can shine upon the picture. Now observe the image on the screen, and meanwhile tilt and move the camera in different directions, still keeping the sun's rays upon the picture. You will observe that in some positions the image on the screen is hazy and indistinct, in others it is less so, and finally in one particular position the image is most distinct. This one particular position is easily found by means of the camera in question.

THE BERLIN PROCESS.

WE have tried the process in New York (that is, five rusty old photographers have tried it). We find the following to be the facts:

Twelve years ago two of us used ground-glass, and *published it then*, but in consequence of its great expense at that time, abandoned the use of it. We find it of no use at this late day, for the reason that most negatives are now retouched, and we can obtain all the softness we desire by using emery and lead pencils, as you direct in your Journal.

Five plates of ground-glass were tried with the following results: they were soft, but not equal to the negatives retouched with lead-pencil. They did not require redeveloping. The ground side is fine for retouching on with lead-pencil; does not improve or lessen the transparency of the freckled parts. As Mr. Rowell states, they need to be retouched the same as on plain glass. The only, and perhaps great advantage of ground-glass over plain is, you can take a negative in

one-third less time than you can on plain glass. Our trials only required 10 seconds. With the ordinary glass it took 30 seconds to obtain the same results. We then placed blue glass behind the negative ("S. M. C." glass), and obtained the same results as on ground glass (that is in time). Why was it so?

Perhaps Mr. M. Carey Lea will be kind enough to give us some light on this important matter of *light in the plate-holder*.

J.

MYSTERIES OF THE NEW YORK DARK-CHAMBERS.

(Continued.)

MR. V. W. HORTON now manipulator in chief at Brady's galleries, New York, has favored us with a formula for negatives, as follows:

COLLODION.

Alcohol and Ether, . . .	equal parts.
Iodide of Ammonium, . .	4½ grains.
Bromide of Cadmium, . .	1¼ "
" Potassium, . . .	1¼ "
Gun-Cotton, . . .	5 "

The solution must be allowed to settle or be filtered before adding the cotton.

The negative bath Mr. Horton uses is 40 grains strong. The best medicine for curing the bath of any of the evils it is heir to, Mr. Horton says, he finds is, that given in our pages a short time ago by Mr. O'Neil, *i. e.*, "*brains*" used and *exercised*. They combine with any and all known chemicals.

Mr. Horton has adhered to these formulæ for several years at Gurney's gallery in New York, and now at Mr. Brady's. He was the successful competitor for the medal given by Mr. Moore for the best solar negative, and states that in his experience he finds a solar negative should be longer exposed than a regular contact negative, and should be developed with a weaker solution. This fact is worthy of the attention of those who make solar negatives, and, shall we say it, *intensify* them. Mr. Horton is one of our most skilled photographers, as the excellent example of work, the solar prize picture, proves him to be.

CONSTRUCTING THE ROOF OF A GLASS HOUSE.

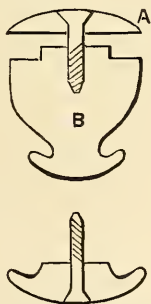
BY "LONDON STONE."

"THE construction of the roof of a glass house is a matter that will bear, and should get, very serious consideration. In all those that I have as yet seen, the ordinary hot-bed sash frame appears to be the model copied; the result being, that in windy weather the shaking of the roof breaks the unyielding putty, and when rain comes the water finds its way in at every break, and plays a fine game with the generally not too substantial furniture. Of course all available dishes, etc., are brought to the rescue, into which the drops fall with a hearty splash, but immediately rebounding spread themselves over surrounding objects. When it is wanted, not only to catch, but also to hold, these sportive drops, I find the best thing to employ is a bottle with a funnel stuck in it. Thinking, however, that 'prevention is better than cure,' I will endeavor to show how to effectually caulk the seams of those leaky ships,—glass house roofs.

"The form of sash-bar is rather different from that in common use, and consists of two pieces. Here are sections of them.

"The object of the grooves in B, is to catch and convey outside any leakage at the edges of the panes; and is copied from the 'Photo. News Year Book' for 1864.

"Where the ordinary form of sash is in use, a strip of wood shaped thus, and screwed to the underside of the bar, will be found a very useful addition.



The plan, however, I have to suggest, is the employment of a strip of soft India-rubber cord in place of putty on the outside of the glass, which is brought closely down

upon it by means of the slip of wood (or, preferably, iron) shown above, marked A. The glass having been bedded as usual in putty, A is screwed down; and with the India-rubber forms an impermeable joint, which, unlike the putty, will yield to the shaking of the roof in windy weather, but it will not allow the passage of any water. Another advantage consists in the fact that if the glass be also bedded on rubber, they can, by merely unscrewing A, be lifted out, without the very serious risk of breakage that attends the removal of glass fastened in with putty; and photographers would then be able to arrange with glass merchants for the yearly renewal of the glass in their studios at a low figure; no unimportant point, when the rapid yellowing of common glass is considered. When large panes are used, leakage will also take place at the lap-joints, partly by capillary attraction, but mostly from the bending of glass in heavy winds. To prevent this, a thin piece of elastic might be inserted between the panes, and supplemented by the use of a strip of wood placed on the top of the iron rods that run along under the laps inside the house. As these joints soon get filled with dirt, the employment of the wood would not occasion any loss of light, and would strengthen the glass very materially, thus allowing the use of large panes. There are many modifications of the above plan that might be adopted, but I will venture to assert that the principle is the right one.

"To those who print outside with glass-fronted frames the adoption of this plan will save a good many prints in wet weather, and possibly *some* negatives, as I have seen such a thing as the paper sticking to negatives, and fetching away the film with it when pulled off."

The above we clip from an English contemporary as being useful at this season of the year, and add below a few remarks on the same subject from Mr. A. E. Turnbull, to whom we are indebted for several useful little wrinkles:

"I have always been bothered with leaky sky-lights, until a short time ago when I determined to put a stop to it. I tore out my old light and made a frame out of pine

pieces $1\frac{1}{2} \times 3$ inches for the centre strips, and the edges are considerably heavier. And, in place of making the sash as is usual, I cut a groove on each side of the centre strip, about $\frac{1}{2}$ inch from the top like this,



and put pieces of tin in like this, to prevent



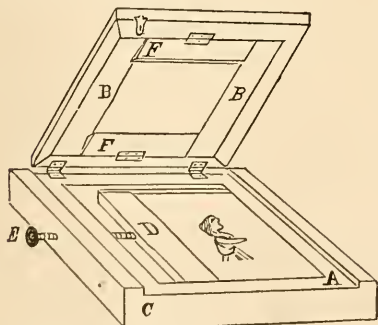
the glass from slipping down; then, I mixed my putty, about one-half white lead, and puttied the glass in carefully, then gave the outside two heavy coats of white-lead paint, and I have been well rewarded for the trouble, as it is as light as can be.

"One great mistake in putting in lights is, that the sash is not heavy enough, so that the wind shakes the putty loose. With this if the putty all comes out the glass cannot."

Printing Frame for Mezzotints or Aquatints.

BY FORESTER CLARK.

I SEND you a drawing of a printing frame I have for making aquatints, we call them, similar to the celebrated mezzotints, only a better thing, and it has no "*patent*" on it. A great many out this way are making that kind of picture, and it is of no use to buy a patent to make them.



A is the outside of the frame, made of walnut, 6 inches square and $1\frac{1}{4}$ inches thick, but rabbeted out $\frac{3}{8}$ inch on the sides, to let the cover down flush with the top, as you will see, and then fastened with a little catch, at C.

B B is the cover hinged on to the frame, 6 inches long, but $\frac{1}{2}$ inch narrower, to let it down into the frame, $\frac{5}{8}$ inch thick, and just a piece of board with 2 strips on the edges to prevent warping.

D is a cross bar, that slides in grooves in the frame A, and is to hold the negative with the help of the thumbscrew E.

F F are two little pieces $1\frac{1}{4}$ inches wide and 3 inches long, hinged to the cover to hold the paper, and are made thickest at the outer edge.

The operation of the frame is very simple. Fasten your paper on to the cover with the little clamps, which will keep it straight, and fasten your negative with the thumbscrew, putting it back from the paper as far as you choose, and thus you get your picture without "*printing through any transparent substance*," and also secure much better effects. The idea is to create a small space between the negative and the paper.

I do not claim to be the inventor of the frame, and as I received a sample and an offer to send me the frame and process for \$10, a few days since, I thought perhaps I might save some one enough to pay for the *Photographer* for the next two years, and concluded I would send it to my Journal.

YELLOW GLASS IN THE DARK-ROOM.

A PLATE sensitized as usual, then exposed to the light from the yellow-glass window, and then developed, will be found not to be affected at all. But, if the sensitized plate be exposed in the camera as usual, then taken in the dark-room and held to the glass window for a few seconds, and developed, you will find the plate is solarized or fogged, showing that enough actinic light passes through the yellow glass to solarize or fog a sensitized plate which has been exposed in the camera.

One of our best operators in New York is now lost in just such a fog, but, as he takes the *Philadelphia Photographer*, I hope the next time I see him he will be out of his trouble.

PERAMBULATOR.

COLLODION AS A VARNISH.

SOME time in the summer of 1857, I think about July, I communicated to the *American Journal of Photography* my discovery of the fact that collodion, modified by a large addition of alcohol, might be used as a varnish for collodion pictures.

That the discovery was considered of some value at the time, is proved by its mention in the preface to "Waldack's Treatise," for 1858, in conjunction with Mr. Seely's discovery of purifying the bath by exposure to light, as the two most important discoveries of the year then past. And Mr. Seely always claimed that my communication was prior to, and the primary cause of all the subsequent discussions regarding the virtues and uses of alcoholic collodion, both here and in Europe.

Be that as it may, I believe the discovery to be of more practical benefit and capable of more extended application than it has yet been, and my object in calling attention to it again is to suggest new experiments and uses, in a different direction from what the idea has heretofore been carried.

One is to assert that collodion is the best varnish for negatives, or rather is better than varnish, because it does not reduce intensity, and therefore does away with most of the redeveloping; it cannot become sticky by heat of the sun; it is much easier to clean when that is desired, yet it has sufficient protective powers to preserve an ordinary negative, with only one application, and that power may be increased by successive coatings.

The mode of preparation is, to wet the cotton with as small a quantity of alcohol as will do it thoroughly, then to accomplish the solution with the smallest possible quantity of ether that will destroy the structure of the cotton, and reduce it to a pasty mass, then bring it to condition for use by adding four or five times its bulk of alcohol, and when the negative is dry and cool flow as usual. Care must be taken not to add too much alcohol, as it will flow clotted; and there must be enough, or it will partially dissolve the film. Of course, the alcohol must be nearly or quite free from water, and the cotton must be of a

quality that easily and completely dissolves. Its flowing qualities are impaired by use, but are easily restored by the addition of a few drops of ether.

I do not find it difficult to manage, and believe it can be made very useful, and I offer the suggestion as some slight return for the benefit I have derived from your excellent and very useful Journal.

E. K. HOUGH,
487 Eighth Avenue, New York.

Photography an Aid to Painting and Chromo-Lithography.

PRANG'S CHROMO OF MR. HILL'S YOSEMITE VALLEY.

WE stated in our April issue the fact that Thomas Hill, Esq., the eminent landscape painter, was free to acknowledge the good service done him in his profession by photography. We also alluded to Prang's chromo of Mr. Hill's admirable and masterly painting of the Yosemite Valley, and since then Messrs. Prang & Co. have sent us a copy of the chromo. We take pleasure in calling attention to it here, because, 1st, it is a work of art; 2d, it is an exquisite reproduction of the original; and 3d, photography did its share in the work of the great whole. Mr. Hill spent weeks sketching in that famous valley, but he also took the precaution to be attended by a skilful photographer. To the latter fact much of the detail of form, the *likeness* of those great heights is due.

The distance in the picture is about seven miles, and the view includes the great granite giant, "El Capitan," who catches the glaring sun on one broad side and hides the other in solemn shade. The "Bridal Veil Falls;" the "Bridal Veil Rocks;" the "Cathedral Rocks," with the tearful clouds swaying over their summits, battling with the sunshine as it attempts to break through them; the "Sentinel;" "Sentinel Dome," the famous "South Dome," and the Merced, whose reflections set the photographer wild, running slowly through the groves and meadows. In looking at it one seems to have the actual landscape before him, sauntering about here and there hunt-

ing for good places for the camera. The atmosphere is soft and dreamy; the coloring that of a master.

The original is 6 x 10 feet, and a most difficult one to reproduce, but Messrs. Prang & Co. have accomplished it perfectly.

The chromo is for sale only through subscription agents and the publishers. It is for sale in this city by Messrs. J. S. Earle & Sons. The number of copies is limited.

WEIGHING AND MEASURING.

BY M. CAREY LEA.

ALTHOUGH weighing and measuring appear to be, and are, operations of a very simple order, they are, nevertheless, the sources of very many mistakes to those who have not paid a certain amount of attention to the ordinary causes of error. I have, therefore, thought that a brief exposition of the right and the wrong ways of taking weights and bulks of substances would not be unacceptable, at least to those who are not thoroughly versed in the manipulations.

WEIGHING.

Every one who undertakes to photograph well, should possess a reasonably good balance. I do not speak here, of course, of delicate analytical balances turning with the hundredth of a grain, but of good, common balances turning on knife-blades, and moving immediately with a quarter of a grain. And I may remark here that an easy way of testing this, by those who do not possess fractional weights, is by cutting up pieces of paper, or, better, of tin-foil. If a nearly square piece be weighed off, weighing *four* grains, and the smooth, hard letter-paper or the tin-foil be cut into sixteen equal pieces, we have so many quarter-grain weights, well suited for testing a balance. And a balance that will not give an easy and decisive indication by the addition of such a quarter-grain fragment, when loaded with a drachm in each pan, is unfit for use.

The French *trebuchet* or tilting balance is much the more agreeable sort to use. The beam is thrown upon its suspension by pressing a lever; on letting it go again, the pans return to the board.

Another important point, after having ascertained the sufficient delicacy of the balance, is to habitually be on guard against *sticking*. Neglect of this point has led to thousands of errors in weights, and vexatious and inexplicable failures in the operations connected with them. "Sticking" arises from this: when the pans are not far from equally loaded, a very slight cause will deprive the beam of freedom of motion. It may not rest exactly square on its supports, or some grains of dust or other foreign body may have got on the socket under the knife-blade, or there may have been a slight tendency to rust. Any of these, and perhaps other causes, may preserve the beam from oscillating, meantime the needle points exactly vertical, and the weight seems to have been correctly taken, when, perhaps, it is wrong by enough to seriously affect the next steps to the operations.

The only sufficient safeguard against this dangerous mistake, is never to take a weight with the needle in this condition, never to depend upon the needle pointing directly to the centre of the index, but always to make the needle oscillate, and see that at each oscillation it moves to an equal distance on each side of the centre, as far to the right as it does to the left. With a needle moving freely, and passing to an equal distance on each side, anything like sticking is impossible, and the operator feels safe that his weight is correctly taken, *provided that his weights are correct*.

The weights that are offered for sale are often very carelessly made. The greater part of the sheet brass weights that are to be found in the market, in sets of from half a grain to six grains, do not give indications, for the most part, of ever having been adjusted. The brass is rolled to as uniform a thickness as possible, and then the weights are cut out by size, and similarly with larger weights.

To show how carelessly these weights are made, I have several sets by the same and also by different makers. In two sets made by one and the same maker, the ten-grain weights differ by over one grain, the one being about as much too heavy as the other too light. Also a six-grain weight proved,

on comparison with my exact platinum standard, to be nearer seven grains than six.

The worst, however, that I have seen, are some "bar weights" made in New England, and largely advertised and sold all over this country. The shape of the "bar weights" is much better than that in common use; all the weights have the same breadth and thickness and differ in length only; thus, the one-grain is a small square piece, the two-grain is twice as long, so that the ten-grain is a long narrow strip. Each is stamped with as many small circles as it is intended to weigh of grains, and to prevent mistakes between those of nearly equal size, the *even* numbers are cut off square at the ends and the *odd* numbers are cut off diagonally. The whole plan and arrangement is excellent, but a very insufficient amount of care has been taken in the regulating. I have weighed a considerable number of them and found them vary much. Some few are correct, most of them a good deal over-weight.

Brass weights are liable to the additional objection that they rust if exposed to acid vapors, and are acted upon by alkaline chlorides, iodides, and bromides. In all these cases they gain in weight, and, if cleaned off, weigh less than they originally did.

The difficulties here enumerated, are so serious that every one who feels interested in working with exactness should own a set of platinum weights. These need not be adjusted with the extreme accuracy necessary for weights intended for chemical analysis, but should be sufficiently correct for ordinary careful use. Platinum has the inestimable advantage of never oxidizing, and, if the weights are kept with any care, they do not tarnish in the least. In my own case I adjust a set of ordinary brass weights by my analytical set, for ordinary use. As the weights sold are almost invariably too heavy, they can be filed down until right. In case any are too light, those, of course, cannot be adjusted, but this is quite uncommon. If it happens, another set must be procured. In fact, it is always convenient to have duplicate weights, and therefore it is best to adjust

two sets at once, and be provided against loss.

Another source of error lies in mistaking the weights themselves, or mistaking the count. To guard against this, the weights should always be counted twice. After the weight has been taken, and before the material is used or even removed from the pan, the weight should be taken out, and recounted as this is done.

Our system of weights and measures is certainly a disgrace to any civilized people. It is highly conducive to mistakes and very troublesome. To have two ounces, one of 480 and the other 437½ grains; two pounds, the one of 7000 grains, the other of 5760, is bad enough. Of late, to add to this confusion, a second drachm has been introduced, viz., the eighth of an avoirdupois ounce instead of a troy ounce, and, consequently, about four grains short of a true drachm. It is to be hoped that, in time, the French decimal system will come into universal use.

(To be continued.)

California Working Formulæ.

FROM the columns of your valuable journal I have received much useful information during the past five years, and should be happy, if in my power, to assist any member of the profession. I do not expect to tell you or your readers anything new or unheard of, yet "such as I have give I unto thee,"—two or three formulæ which have proved most successful in my hands.

Commencing with silver bath, I use

Rosengarten's Philadelphia

Nitrate of Silver, . . . 4 ounces.

Distilled Water, . . . 44 "

Saturated with iodide of silver, prepared as follows: Take 1 ounce of silver bath 40 grains strong; precipitate with tincture of iodine; wash two or three times, last with distilled water. Add this to your bath, shake well, filter, and it is ready for use. I am not often compelled to use acid. If, however, the bath requires it, I take nitric acid C. P., diluted with three times its bulk of water, and of this add ten drops. (I have never known a bath containing four

ounces of Rosengarten's silver to require more.) This bath I have used for several years, and always with success.

I have tried many formulæ for collodion, but get the best results with the following:

Alcohol,	32 ounces.
Ether,	22 "
Anthony's Gun-cotton,	325 grains.
Iodide of Ammonium,	180 "
Iodide of Potassium,	65 "
Bromide of Potassium,	124 "

Or 6 drachms of a saturated solution.

This collodion will keep three months in warm weather without any apparent change, and may be used 24 hours after mixing.

DEVELOPER.

Photosulphate of Iron,	4 ounces.
Water,	64 "
Acetic Acid,	5 "

Alcohol enough to make it flow smooth.

In very warm weather, I use 72 ounces of water instead of 64.

SILVER SOLUTION FOR ALBUMEN PAPER.

Rosengarten's Nitrate of Silver,	1 ounce.
Water,	8 "
Liquid Ammonia,	1 drachm.
Nitrate of Ammonia,	60 grains.
Alcohol,	1 ounce.

I float from 30 seconds to 1½ minutes, according to the weather and the kind of paper I am using. I find the "Pearl" paper requires less time than any I have used. I do not fume.

My toning bath is simply chloride of gold neutralized with chalk. (It will give any tone required.)

Take 60 grains of chloride of gold, and one ounce or more of powdered chalk; put it in a cyanide bottle, fill it with water, shake it well, cork it up, and let it stand for 12 hours. Take one ounce of this solution and one quart of water, filter, and your toning bath is ready.

Do not throw it away when your prints are toned. It is good for the next day by adding a little more of the stock solution of gold. In this way, I have used the same bath for over two years.

Photographically yours,

A. J. PERKINS.

VALLEJO, CAL.

The Case of the Shaw & Wilcox Co. vs. G. W. Lovejoy.

ITS ALPHA AND ITS OMEGA.

It gives us a great deal of happiness to be able to announce to our readers the complete overthrow of the complainants in the above case, and to congratulate them on their escape from a tax that would have been most grievous upon them if it had been sustained. A brief *résumé* of the case, from beginning to end, may not be without interest to our readers.

In the year 1868, and in the beginning of 1869, we heard from a number of correspondents that the Shaw & Wilcox Co. were visiting photographers about the country, claiming all to be infringers upon a patent they had for a vessel for saving waste solutions of silver and gold, who saved their wastes by precipitation, no matter by what means. Such a broad claim seemed very ridiculous and absurd, and our advice was constantly sought in the matter. We began then to realize the importance of the case, read up on the subject, and finally concluded to take sides against the broad claims made as we have stated.

We frequently warned the trade in these pages as to their rights in the matter, and, as the said claims had never been substantiated in any court, advised them not to entertain such absurdities unless they were so sustained. The resistance that then followed compelled the Shaw & Wilcox Co. to engage in a suit, in order to prove the right or wrong of their claims. Their victim was a very poor, obscure photographer, with one eye and one arm, Mr. George W. Lovejoy, of Stepney Depot, Conn. Why he resisted their claims we have never asked him. We were not acquainted with him then. That he *did* resist them to the very end we should all remember with gratitude to him, for he has been a martyr to the interests of his coworkers. We were informed that *some* one had been prosecuted by the patentees, but for some time could not find out who. Finally, we made a request in these pages, that if the party saw it he would oblige us by sending his address. The poor man could not afford to take our Journal, but some friend informed

him of our request, and his address was soon in our hands. This was about eight or nine months ago. We then stated to Mr. Lovejoy that we felt that his prospect of defence was good, if the fraternity would only help him, but, as we had not time then to take active part in fighting with him the patent, all we could promise him was a little pecuniary aid and a recommendation to the mercy of a number of leading photographers. He waited upon several of the fraternity, feeling—and rightly, too—that they were as much—and some of them more—interested as he was in the case, but he failed to get much assistance—felt that he was *begging* for what was his right, and grew despairing.

We continued to warn our readers on the subject, the result of which was the rendering to Mr. Lovejoy of the most liberal, overwhelming and magnanimous—*silence*.

This rather dumbfounded us. We could see ahead, how, if this patent be sustained, a powerful organization could be formed, with the law on its side, which could bleed and sap the fraternity of all its waste solutions, or as much of the same as it saw fit to demand for “royalty.”

How could photographers be so sleepy on this subject? We could not understand it, and consoled ourselves with taking a nap too (and during this spell we were “caught napping” by Mr. Shaw and the gentlemanly deputy sheriff who accompanied him, as will be learned further on), leaving Mr. Lovejoy to go on as he would, or as far as his funds would allow. We expected that he would finally be compelled to settle and let the case go by default, for want of funds to go on, then the photographers would *feel* the weight of the patentee’s claims, and probably awaken and fight a new case. Fortunately, however, Mr. Lovejoy had fallen into the hands of honest, noble counsel, Mr. E. Y. Bell, 43 Wall Street, New York, who, although having been paid but \$50, felt the injustice of the claims, and concluded to push for Mr. Lovejoy, as far as he could afford to take his time to do.

The case lingered on then; every few days a meeting of the counsel of both sides was held for the taking of testimony, until the

day of our arrest, when, singular as it may appear, the testimony was to have been closed and the case pushed to an argument in court. Mr. Bell felt that he had done all he justly could be asked to do under the circumstances, and with but half a case concluded to argue it.

Mr. Shaw and his confrères were, no doubt, chuckling over this state of affairs. It was just what they wanted. Now, if they could only capture the editor of the *Philadelphia Photographer*, the Secretary of the National Photographic Association, frighten his mouth shut, and prevent him from going to Cleveland by employing his time early in June with a lawsuit in New York, then their happiness would be supreme, and the gold and silver would *precipitate* right into their coffers! They, therefore, made bold to arrest that humble, harmless person, who had not, *as yet*, done anything scarcely in their case with Lovejoy, bound him over to appear and answer to a claim for \$30,000 damages. This procedure awakened us from our nap, and, after obtaining necessary bail, we visited the office of Mr. Bell for the first time, where we learned the then condition of the case, which was as stated above. We felt that the matter should not close thus, for he had not the sort of evidence he needed. Although having avowed that we would never again undergo the mental labor of fighting another patent case like the Bromide patent, we decided to help, after mature deliberation. We saw that Mr. Bell’s heart was in the work, and told him to go on taking evidence that would be supplied him, and that he would be fully remunerated. This we did, believing that it was of immense importance to the photographers of the country, and believing that they would at least supply funds to pay the costs.

In our April issue we stated the facts, a call was made by President Bogardus to supply funds, and we are glad to say that the *responses* were *most overpowering*, amounting in sum total to *two*, and in figures to *six dollars*! With this *magnanimous* support and fond hopes of success, we went on, paid the demands of the case, and are happy to announce as the result, *another complete overthrow of injustice and impudence*.

THE TESTIMONY.

It would be wearisome to give you all the testimony taken, but a synopsis may interest you. It was taken before James Gutman, Esq., U. S. Commissioner, New York, Thos. M. Wyatt, Esq., being counsel for the Shaw & Wilcox Co.

The witnesses for us were Mr. Lovejoy, who testified as to his apparatus in use; Mr. Hugh O'Neil, N. Y., who testified to having saved his wastes since 1858; Mr. Geo. G. Rockwood, N. Y., who had saved his wastes since 1854 or 1855; Mr. George Sly, N. Y., who saved gold and silver wastes by precipitation in England about 1850, and in the employ of Mr. Bogardus had saved them since 1861; Mr. Charles Cooper, N. Y., the eminent chemist, who testified to having precipitated waste solutions since 1857. These were the only witnesses on Mr. Lovejoy's side, though parts of several days were occupied in their examination.

There were two only on the other side, both of whom were examined after our arrest (the others before), viz.: Myron E. Judd, an obscure individual, who swore that in 1852 he and Mr. Shaw experimented with waste solutions; that the only "chemical work" he had read up to that time was "*Hill on the Daguerreotype*;" and in reply to the question, "Could not the photographer's waste solutions be converted into chloride of silver by the use of muriatic acid or a solution of common salt?" made the luminous, lustrous answer, "It might be converted by the use of muriatic acid, but not chloride!"

But the principal witness for the Shaw & Wilcox Co., and the most valuable one for Mr. Lovejoy, was Jehyleman Shaw himself, "*President of the S. & W. Co.*" He did well. His counsel got out of him all he felt it was safe for him to abstract, and then Mr. Shaw was turned over to Mr. Bell for cross-examination. The result was fine. Shaw evidently expected no such a raking over the coals as he got. By some mysterious means, Mr. Bell had become thoroughly conversant with the chemistry of photography, and was therefore able to put Mr. Shaw through such an examination as surprised him. The affair was most inter-

esting and entertaining, and we wish we had space to give the record in detail. Shaw, of course, was fully posted, for he had made the subject his study for years. We may some time find space for some of his answers. Some of them were admirable, but there was his "horrible claims in the way," as Judge Blatchford remarked at the hearing.

He was on the stand on several separate days. The gist of his testimony was this:

1. *He first conceived the idea of saving photographers' wastes, and experimented in that direction as early as 1852. Finding a "common Shaker pail," a barrel, etc., not to answer the purpose fully, he invented his patent "vessel."* Therefore, being the first to save said wastes and the patentee of a "vessel" for saving them in, "all parties saving their wastes by precipitation were infringers, no matter what means they used."

2. Although jewellers, chemists, etc., may have saved their wastes previously, that did not interfere with him. Photography gave birth to "new combinations," he said, such as iodide, bromide, and sulphide of silver, and *he patented the idea of saving silver from such combinations*, and all who did it without paying him a royalty were infringers.

This was his broad claim, and he insisted upon it to the end. He perhaps stated them more broadly than he wanted to, but the very object of his cross-examination was to make him reach as far as he would, for the broader the better and the surer his defeat. We know that when we stretch a gum band around a file of papers too large for its strength, it becomes very thin and *transparent*, and then it *breaks*. So was it with "President" Shaw's claims. They were stretched and widened by him until they could be seen through, and now they lie broken.

The testimony was closed March 31st, and the counsel separated to prepare their argument for court.*

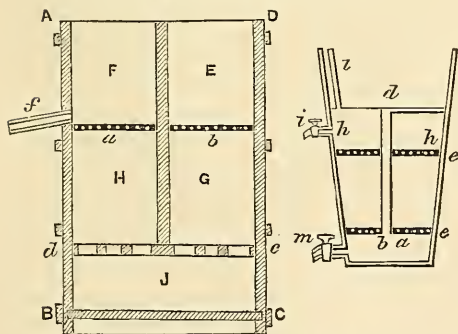
We were in New York the last two days,

* It will be understood that in such cases the witnesses are examined before a U. S. Commissioner, and then the case is argued before the Judge of the U. S. Circuit Court, and by him decided.—Ed. P. P.

and during the time when Jehyleman Shaw was giving breadth to his claim. It was policy for us to keep out of his sight ; but the cross-questioning he got through Mr. Bell made him suspect some Lucifer was about, and with malice in his heart (we are told) he made a second charge against us, and after Mr. Bell was through with him it was his intention to gobble us up again ; but we made our exit while he was racking his ingenious brains to answer the questions put to him, and are yet free.

After the taking of testimony was closed, it was apparent that Mr. Shaw and his "Co." had no chance whatever. His own broad claims would defeat him. But that his claims *were* broad had to be brought to the mind of the Judge by argument, which was afterwards most handsomely done by Mr. Bell.

Mr. Bell made a visit to Philadelphia, and engaged himself in the quiet shades of the office of the *Philadelphia Photographer* in gathering material to strengthen his plea. Here he was met by Mr. James F. Magee, the eminent photographic chemist, whose library of chemical works was brought into service. In *Gmelin's Chemistry* (1851), it was found that "all the new combinations" that "photography gave birth to," were mentioned, some occurring as ores in nature, all treated of in detail, and methods for recovering the precious metals.



In *Ure's Dictionary*, a book Mr. Shaw swore he had consulted in his *early* experiments, was found a woodcut and description of a tank or vessel used for the purpose of upward and downward filtration. A square (or other shape—see the drawing, which is *square*) vessel with a partition in

the middle, running near to the bottom ; the fluid to enter at the side E, pass down under the partition J, rise up through the other side through a filter *a*, and out at an opening *f*, near the top! Could anything be *more* like Shaw's apparatus without being it? * Draw your own inferences, then, as to where he got his ideas from!

The production of this proof by Mr. Magee was most invaluable, and of vital importance to the case. Mr. Bell was also thoroughly posted, in Messrs. Suddards & Fennemore's rooms, in making negatives, printing, washing, and toning, in order to understand exactly what wastes were saved and how it was commonly done.

The day of argument came, April 14th, and the case was argued fully on both sides. Mr. Bell had bottles of negative bath, wash water from prints, &c., furnished by Mr. G. H. Fennemore, which he precipitated before the court with thrilling effect, upon which the Judge at once exclaimed, "Why, that is old," and was about to dismiss the case in open court at once. The plea of the other side, however, induced him to reserve his decision, and the argument was closed.

We knew that our side had been faithfully argued. Not only was the law pressed home, but the equity of the case was also fully argued. The main opposition was to Shaw's broad claims, and to his theory that photography gave birth to "new compounds" of silver in solution, from which it was his good fortune to first find a way to recover the precious metals.

Mr. Bell was also furnished with photographs of several vessels used for precipitating wastes in, in this city, by Messrs. Newell, Reimer, and Fennemore, among which were several of one of Shaw's tanks, in order to show the fallacy of claiming that one was an equivalent of the other. It would be just as reasonable for you, because you have patented a new printing frame, to say that all others were an infringement, and no one could print without paying you a royalty.

And yet of such a nature were the claims of Shaw: 1. That *he* was the *first* to discover that the precious metals could be re-

* For drawing and description of Shaw's apparatus, see page 34 of our last volume—February, 1869.

covered from solution by the means of suitable precipitating ingredients, and therefore all who performed that operation were infringers; and 2. Being the discoverer as above, he invents an improved vessel or tank for saving and precipitating such wastes in, and therefore all other vessels were infringements.

So sure were the Shaw & Wilcox Co. that these claims would be sustained by the Court, that they were imprudent enough to issue a circular to the photographic fraternity a week or more before the decision, which is a gem in its way. A number of our readers have had copies of it; for we spread it, as soon as a copy came to our hands, among our subscribers near by, whom we thought could afford to help pay the expenses. We can hardly spare the space for it, but it is too good for our readers to lose, and we append it.

"THE FINAL DECISION

OF THE UNITED STATES COURT UPON SHAW'S
PATENT PROCESS FOR RECOVERING GOLD
AND SILVER FROM WASTE SOLUTIONS.

"The United States Court has now decided that Mr. Shaw is the original inventor of the *process* of recovering silver and gold from waste solutions, of every description, and that all parties who recover gold and silver from waste solutions by means of precipitating ingredients use his invention.

"Judge Blatchford, at the summing up of the issues, used the following language:

"Mr. Wyatt, I understand the case fully. I see that Mr. Shaw has made a very valuable invention. That it is a patentable one there can be no question, and that Mr. Shaw is the original inventor there can be no doubt, as the commencement of his experiments were coeval with photography itself, and I have no doubt whatever that every one who is now using it have stolen their ideas from him or received them from those who did get them from him."

"Judge Blatchford's remarks speak for themselves so forcibly, that we can add nothing to them. The written decree we have not yet received, and may not receive it in several weeks, and we may receive it to-morrow. Be that as it may, the decision

is virtually made, and in our favor, and having, after such a fight with the whole power of the National Photographers' Association to back the nominal defendant, gained such a glorious victory, we are now disposed to be magnanimous to our fallen foe and show our liberality. During the past year we have been furnishing tanks of our own make to all who wished for them, on conditions that for each tank furnished the party receiving it was to subscribe for one share of the capital stock of our company, paying one-half down, and sending us all of their waste to be worked at 25 per cent., the other 75 per cent. to be returned to the party sending it, and the second payment to be made out of the first waste worked thereafter.

"We shall continue to work waste for all who prefer to send to us upon these same favorable terms, and all who thus send us all of the waste which they make, to be worked by us on the above terms, will be allowed the free use of our patent. Hereafter, however, there will be no more of the Company's stock sold on the above terms, as it is now worth more than par, but we shall still furnish tanks for all who wish (to be paid for by them at a fair price), and allow all who choose, to make their own apparatus or to continue using such as they already have, charging all galleries in the first instance a bonus of from \$10 upwards, according to their business; and those who then send us all of their waste to be worked on shares, will be required to make no further payment, but will be allowed to use our patent free on the above conditions.

"All for whom we do not work waste, will be required to pay us an annual royalty of from \$10 to \$100 each, in proportion to their business; they can then, of course, dispose of their waste as they choose, as we shall have no further claim upon it after receiving the royalty. We do not desire to work the waste for any man or party who does not prefer to have us work it for them; all we ask is, that you pay us a moderate and reasonable price for our invention and process for recovering it, which you are all now using and must continue to use, or else not save at all.

"All parties who will voluntarily fill out,

sign, and send us the inclosed application for a license to use our patent, will have one granted to them upon the above-mentioned very liberal terms. All who neglect to apply on these conditions within thirty days after receiving this notice, will be immediately prosecuted for infringing our patent, and compelled not only to pay a royalty for the future, but damages for all past infringements, and for all violation of contracts heretofore made by them, with either Mr. Shaw, The Shaw and Wilcox Co., or with any party who may have heretofore held an interest in the patent, as it now belongs exclusively to us, including all former licenses, contracts, &c.

"Many of you have violated solemn contracts heretofore made with us, and nearly all of you have been using Mr. Shaw's invention from three to five years past, and many of you longer than that even, free of all cost, but notwithstanding all that, we are willing to let the past bury the past, with all who are now willing to treat us fairly and honorably. All we ask is what is legally, justly, and equitably our rights. Will any reasonable or honorable man deny it to us?

"Would a pickpocket even persist in robbing you to-day when he was certain that you could bring him to justice to-morrow? Gentlemen, take your choice. To-day we stand ready to meet every man upon the square, and to deal with him in an extra liberal manner, provided only that he comes forward and asks for an honorable settlement. Right and Justice is upon our side, and *Right and Justice we will have*, peaceably, quietly, and without further litigation if possible, but if any are so blind or stupid as to persist in further litigation, they shall have it to their heart's content. You can if you choose put us to the expense and trouble of paying you a visit with the United States marshal, and of closing up your business, seizing your gallery, and placing it in the marshal's hands, but will you do it? If you do, you certainly cannot hereafter blame us for what you bring upon yourselves, or find fault if we ask you to pay the expense, which your obstinacy forces us to make. We prefer the easier and cheaper course, but if there is no alternative, we shall not

shrink from enforcing our rights, no matter what the cost;—in the end it must fall upon those who forced it upon us, and will be no fault of ours.

"Yours, respectfully,

"THE SHAW & WILCOX Co."

It was accompanied by a blank for the photographer to fill applying for a license, and giving a detailed statement of the amount of business done during the past annually, your gross receipts, amount of silver and gold used by you on an average each year, and so on,—a regular inquisitorial account of your business,—followed up by a lot of insinuations and threats, in harmony with the spirit of the circular above.

Photographers of the United States, do you see what you have escaped? How bold the hydra-headed monster became, hissing at your very doors before it had a right to make its voice heard? But thanks to "*Right and Justice*" for severing its hateful body with one clean, clear, fell swoop, giving victory to the right, and to wrong, *death*.

We are indebted to Mr. L. Thompson, Norwich, Conn, for promptly supplying us with copies of the circular. If others have received them, and have thereby been frightened into paying anything, we believe they can recover damages; for the Shaw & Wilcox Co. would be guilty of obtaining money under false pretences in such cases.

We now come to the real and genuine

FINAL DECISION OF JUDGE BLATCHFORD.

"The claim is as follows: 'An apparatus for recovering gold, silver, etc., from waste solutions, by means of suitable precipitating ingredients, substantially as herein specified.'

"It is impossible to sustain this patent as a valid patent on the claim it makes, whether such claim be regarded as a claim to a process or a claim to an apparatus. Whether it claims the recovering of gold, silver, etc., from waste solutions by means of suitable precipitating ingredients used in a proper apparatus substantially as specified, or whether it claims a proper apparatus for recovering gold, silver, etc., from waste solutions, by means of suitable precipitat-

ing ingredients, substantially as specified, it is equally open to objection: The specification states that the object of the invention is to provide means for recovering from waste metallic solutions the valuable metal contained therein, after the solution has been used and spent. The result,—that is, the recovering of such valuable metal,—cannot be claimed. The means alone can be claimed. In the means, or the providing of the means, or the use of the means, to effect such result, the invention consists. Those means are stated by the specification to be a vessel to hold the waste solution, in which vessel chemicals may be placed to precipitate the valuable metal and separate it from the waste. The specification states that the vessel may be of any suitable material, and of any suitable form and size; that in it a bag may be contained containing any ingredient that will precipitate the metal, or such ingredients may be placed in the vessel in a loose state; that, after the precipitation takes place, the liquid may be drawn off through a suitable pipe arranged on any suitable part of the vessel, or it may be allowed to fill the vessel and run away over the top; that a filtering device may be used with the pipe, but can be dispensed with for the majority of solutions; and that the vessel may have a partition in it or may not. The sum and substance of all this is that the result is the thing claimed to be patented. The apparatus is nothing but a vessel to hold the liquid, and the process consists only in putting into the liquid in the vessel the proper chemicals to effect the precipitation of the valuable metal. That a suitable vessel of a suitable form and size must be used to contain a liquid, if the liquid is to be utilized, is no new idea. To discover that a suitable precipitating ingredient will precipitate what it is capable of precipitating is no invention. The claim is altogether vague and general. It is open to the objections stated in the case of *O'Reilly v. Morse* (15 Howard, 62, 119), against the eighth claim of Morse's telegraph patent. It is in effect a claim to the use of the proper chemicals to precipitate the metal from the liquid waste solution, by putting such chemicals into any proper vessel containing the solution. The claim in

its present shape cannot be sustained, and the bill must, therefore, be dismissed with costs."

T. M. Wyatt for the plaintiffs.

E. Y. Bell for the defendant.

Could anything be more lucid or satisfactory if a committee of our wisest photographers had been appointed to write the decision? Judge Blatchford seems to have comprehended the case fully and entirely, and, in these days of uncertainty of the law, his decision is most learned and worthy of the highest compliment. It is just and right.

Now, photographers, you are freed from an annoyance that would have vexed you for eight or nine years to come. Not only your past but your future is protected. We are informed that there can be *no appeal* from this decision, so the victory is final and complete. If your savings are not very great, the amount of annoyance you have been saved is great. Will you not, therefore, contribute what you can towards defraying the expenses of securing you from this annoyance, *and at once?*

Considering the importance of the case, the charges are very moderate. Had it to be done again, it would be even less, but, where a case must be closed within a short time, often expenses are incurred to save time, that could be saved if time were more plenty.

Mr. Bell is yet to pay partly, and Mr. Lovejoy should be made whole, so that about \$900 are still wanted. Are there not enough of our readers who will send us their share to close up this matter at once?

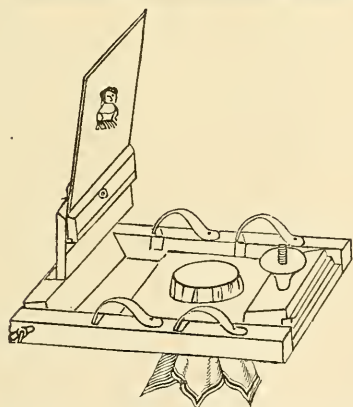
Shaw, at one time during the case, remarked to a party from whom we got the information: "Why should Mr. Bell and Mr. Wilson pursue me so? What assurance have they, after they have done their work, and, perhaps, beaten me, that photographers will not turn around and give them a kick?" Shall his insinuation be verified?

And now one word for our learned counsel, Mr. Ezekiel Y. Bell. When he was first visited by Mr. Lovejoy he saw very little money in the case for him, as it stood. However, he became interested, and with

no one to help him but Mr. Lovejoy, went to work; from time to time summoned the witnesses, with the most of whom he had but a few moments' conversation before their examination, examined them, cross-examined Shaw partly, and prepared to close the case as we have stated before. The help from the profession that Mr. Lovejoy seemed to assure him of, did not come, but Mr. Bell did not quail. Fortunately, our arrest was made at that time. We have to thank it for our acquaintance with Mr. Bell. We rendered him our humble assistance; he willingly acceded to our request to go on in the case; spent night and day, at the sacrifice of other cases, in working for you; came to Philadelphia, as we have stated; studied photography; studied chemistry and other authorities, and left no stone unturned to secure success. His argument was most brilliant, and victory, we are happy to say, is his. Now let him be paid *promptly*.

If any of our readers are favored with law business in New York, there is no one there whom they can more confidently rely upon and trust than E. Y. Bell, 43 Wall Street.

"Handkerchief Printing Frame."



Those who are accustomed to printing photographs on handkerchiefs and other fabrics, know what a trouble it is to get the same drawn tight and even, and to hold them so during printing.

While visiting the rooms of Messrs. Moore Brothers, Springfield, Mass., a few

weeks ago, we were shown a little device that answers the purpose admirably, and is very simple. Take any ordinary porcelain printing frame—they use Chapman's—and through the bottom part bore a hole, say $2\frac{1}{2}$ inches in diameter. Fit this with a nice smooth tapering cork, so that the further it is pushed up through the hole the tighter the fit. Now over the face and small end of the cork lay the fabric, push it up through the hole in the printing frame, and thus you secure a surface as hard, even, and easily printed upon as a piece of ground porcelain. The cut will make the whole matter plain. The hole does not prevent the frame from being used for porcelains either.

THE FOG DISPERSING.

(SEQUEL TO ONE HUNDRED DAYS IN A FOG.)

[No. 1.]

MILWAUKEE, May 1, 1870.

Publishers Philadelphia Photographer:

Inclosed you will please find (\$5) five dollars for one year's subscription to the *Philadelphia Photographer*, commencing January 1st, 1870. I notice that you published the correspondence between Mr. Elbert Anderson and myself, as also the "One Hundred Days in a Fog," which he sent me.

I assure you that I look forward, with considerable interest and expectation, to the coming letters of Mr. Anderson, though I fear he will dwell but lightly (or else perchance skip altogether) on items which he may consider as too trivial of notice; and yet it is oftentimes on these minor points one needs the most information.

I feel thankful, however, that he gives himself any trouble to write what he does, for it cannot particularly interest him.

A. B. MARSHALL,
Photographic Artist.

[No. 2.]

MILWAUKEE, May 1, 1870.

MR. ELBERT ANDERSON,

Operator, Kurtz's Gallery, 872 Broadway, N. Y.

DEAR SIR: Your very welcome, though rather severe letter, with manuscript, entitled "One Hundred Days in a Fog," came duly to hand. That I was amazed,—in fact,

overwhelmed with astonishment upon reading these extracts, is beyond all question. All this may be very *amusing* to *you* and those who throw these photographic stones at us unfortunate artistic frogs; and had I not referred to some of these books from which you quote (a number of which lie [!] before me), I should certainly have supposed the whole "Fog" was purely an invention of your most brilliant imagination.

I have subscribed to the *Philadelphia Photographer*, as you directed, thus taking your advice at the outset.

It needed no ghost, Horatio, to tell me the trouble with my negatives. It is the *cause*, *prevention*, and the *cure* of the trouble I wish you to give me.

Which of these reliable authorities (!) in your extracts are wrong and which right? How could they (the wrong ones, I mean) have gained any reputation whatever in photography, when they deliberately wrote what *they knew to be false*, or else, still worse, when they wrote through the most *deplorable ignorance*?

How I wish I had the hanging of every mother's son of them! By the way, why don't *you* write a book on Photography? Or, if you have not the time to do so, can you not at least write *me* a few *plain* instructions in *plain* language? It seems to me a great oversight to tell us to do so and so, without giving us the *reasons why*. For instance, we have on the fifth day in the "fog:" "*Should your bath streak your plates, add a little nitric acid thereto.*" Why? What effect has nitric acid in preventing streaks? On the sixth day: "*Nitric acid is, of all things, the most objectionable in a new bath.*" Just so. Hardwich says: "*Iodide of cadmium INCREASES the intensity of the collodion.*" Whereupon Devine remarks: "*When the negative comes up with TOO MUCH INTENSITY, add iodide of cadmium to the collodion.*" Yet neither of these gentlemen gives us any clue whereby he arrives at this conclusion. And so on to the end of the chapter.

By the way, I notice that a party of the name of Reynolds takes exception to your *extracts*. It appears to me, however, to use an expressive, though very inelegant saying, "he is barking up the wrong tree."

He certainly misunderstands you most completely. One would suppose, from his communication, that *you* considered Hardwich as in error, whereas you make *no comments whatever*. I fear he is a little premature.

Hoping soon to hear from you,

Yours, A. B. MARSHALL.

[No. 3.]

NEW YORK, May 4, 1870.

MR. A. B. MARSHALL.

DEAR SIR: Yours of 1st inst. is just to hand. That you were astonished upon perusing the "One Hundred Days in a Fog," is admitted, I see; that you were amused thereat, however, is *not* so clear. Never mind, hereafter, when you come to know better, it will be *your* turn to be amused. You are pretty "*cute*," though, when you say, almost in one breath, that you "should like to hang some of these gentlemen—and—why don't *I* write a book on the subject?" Oh, yes! and perchance disagree with some of these learned authorities, and thus get hung; being made the very first example under the new law. That would be *Marshall law*, with a *vengeance* (!).

Some years ago, before you and I were born, an ingenious artist of Athens, named Perillus, made a brazen bull for the tyrant Phalaris of Agrigentum. This machine was constructed for the purpose of putting criminals to death, by burning them alive. It was so made as to cause the cries of the victims to resemble the roars of a bull. Now, when Perillus gave it to Phalaris, the tyrant made the first experiment upon the donor, and cruelly put him to death by lighting a fire under the belly of the bull. [Moral: *don't* write a book on photography.]

But "let us have no more meanderings." I would not have you think for an instant that I make any such pretensions as to put myself into competition with these great men, whose works furnished my extracts. No, indeed; they have doubtless devoted years of study upon a subject where I have devoted as many weeks. I cannot for an instant harbor the thought that any of these gentlemen wrote what "*he knew to be false*;" nor will I accept the other alternative, that he wrote in "*deplorable ignorance*" on the

subject. But I *will* say, however, that many of them do write a vast deal of unnecessary and unmeaning words; complicating what otherwise might be made quite plain; going into erroneous and useless processes; first creating, and then magnifying difficulties, much to the discouragement of the reader, who would most certainly, like Queen Gertrude, prefer "*more matter with less art.*"

Now, sir, I shall, in my next letter (according to your desires), be very particular, and tell you exactly how I *prepare* everything I use, and how I *use* it after it is prepared. Not, mark you, that I am right, and Prof. Muddlehead and Dr. Flipmagilder wrong. *I make no such assertion.* I do everything by an invariable rule—*according to circumstances*—and have, consequently, an invariable result; thus keeping clear of "*trouble,*" as you call it. In the meantime, if you have any special questions to ask, *ask them now*, or evermore hold your peace.

In regard to "the party of the name of Reynolds" [who fails, by the by, to give his address,—a circumstance of itself of the *most suspicious character*], it is much to be regretted he so little understands what he reads.

First. "The party of the name of Reynolds" says: "He" (*i. e., I*) "does not do justice to the man he quotes from." Hardwich says: "MANY adopt the plan of leaving," etc., etc. (page 417, 7th ed.). Mark you, Hardwich does not say that *he* adopts, nor does he say anything *pro* or *con*; he merely states as a fact that "MANY adopt this plan." Alas! all I said was to repeat Hardwich's very words. I made no reflection *whatever* on Hardwich. Where's the injustice? I have carefully read "ALL Hardwich wrote on that page," and can see no reason for abandoning my first position.

Second. "The party of the name of Reynolds" says: "We conclude that the writer in *Le Moniteur de la Photographie* used a very filthy bath, and did not dare to move his plate," etc. I am glad to see that *he*, at least, has "*done justice*" to *Le Moniteur* man.

Third. "The party of the name of Reynolds" says: "He" (*i. e., I*) "should have

stated ALL Hardwich said or wrote on that page, then some valuable information would have been gained by *those who need it.*" *Exactly.* At the end of the first part of "One Hundred Days in a Fog" is printed, in perfectly legible type, "*To be continued.*" Now I think that "the party of the name of Reynolds" should have waited until I had stated ALL I had to say in these pages, when he, even *he*, would have gained some valuable information, and thus spared himself the mortification of his present deplorable position. If I assert that Prof. Muddlehead says *he* always eats *fried* potatoes with his soft-shell crabs, and that Dr. Flipmagilder says *he* always eats *boiled* potatoes with his crabs, do I do injustice to either party, inasmuch as I offer no comment whatever, one way or the other?

Fourth. "The party of the name of Reynolds" says: "If the gentleman" (*I, again*) "will note what Hardwich writes on page 278, I think he will be able to give some information to A. B. M." Just so. Now, considering I did not intend—in *these extracts*—to give you ("or any other man" to whom the pages may come) the *slightest information* [I believe I stated as much in a former letter], I fail to see the application.

In conclusion, then, "the party of the name of Reynolds" gives you this good advice: "Subscribe for the best journals, and keep a good library of the best standard works on Photography."

This is precisely what I have done, and by so doing have, with their monstrous inconsistencies and ludicrous contradictions, plunged directly into this very "One Hundred Days in a Fog."

Very sincerely yours,

ELBERT ANDERSON.

[No. 4.]

NEW YORK, May 12, 1870.

MR. ELBERT ANDERSON.

MY DEAR SIR: I have again to thank you for yours of 4th inst. As you see above, I arrived in New York only this morning, but was unwilling to intrude myself at the gallery [where I am dying to come, however, to see all the "*modern improvements*"].

I sincerely trust to see you at your private residence, where, I feel assured, I could

learn more in a quiet chat with you than in a wilderness of correspondence. *May I come this evening?*

By the way—I know you will excuse me—is there a *Mrs. A.*, whose sanction and convenience I am bound to consult? For I should be loath to incommode or interrupt any domestic routine.

An early answer will greatly oblige yours,

Very respectfully,

A. B. MARSHALL.

[No. 5.]

NEW YORK, May 7, 1870.

MR. A. B. MARSHALL.

DEAR SIR: Yours of this morning received. Surely, you may call on me *any* evening and welcome. I shall certainly expect you *this* evening. You did wrong *not* to come to the gallery, for Mr. Kurtz would, of all others, be pleased to show you all the "*modern improvements*," as you style them, and fully explain their object and divers uses. I hope yet to see you there.

There is a *Mrs. A.*, whom you will *not* incommode, however. *She* will take good care of that. For when I told her of your contemplated visit this evening, she exclaimed: "*WHAT! that horrible Marshall man from the Rocky Mountains?*" [She has a confused idea that Milwaukee and the Rocky Mountains are one and the same; or, as she says, "*just as bad, every bit.*" I know you will overlook the manner of mentioning yourself, seeing she has never had the honor of a personal acquaintance.] "*And are you two going to pow wow wow photography all night long?*" Upon my informing her that such, indeed, I *thought* was the object of your visit, she said never a word, but putting on her bonnet and shawl, in awful solemnity, marched to the door, merely observing that she was "*going over to mother's*;" and with this Parthian arrow she left me. So, you see, you *must* come now, else I shall die with *ennui*.

Very sincerely yours,

ELBERT ANDERSON,

No. 1 Vacant Place, N. Y.

THE "*Photographer*" has the greatest circulation of any Photographic Journal in America, among *bona fide* subscribers.

UNDER THE SKYLIGHT.

BY ROLAND VANWEIKE.

No. II.

Good morning, Focus.

"Good bording, sir."

(Focus has a little squeaky voice, and talks as if he had a cold in his head.)

Agreeably to promise, Focus, I will try and give you some further instructions to-day, and as you are coming to understand pretty well what we are doing, you may ask any questions you please. But as it is early yet, and we may not have any sitters for some time, I want to improve the opportunity and talk with you a little about what we do, and what we do with.

I propose to dwell more particularly on what are termed plain pictures to-day, and show you my idea of making that style of work. It is not original with me, however, for many of the most eminent photographers practice it. I allude more particularly to the accessories, furniture, &c. Years ago when nearly everything was made either standing or sitting, full figure, there was little attempt made with accessories. The articles mostly used being a pedestal and column, appearing to be of immense height and great solidity, with a curtain sometimes draped around it, with a flashy figure, giving the most violent contrast of black and white in the picture; a chair with a high and elaborately carved back, no one was ever expected to sit in it, and a little round table, with a covering similar to the curtain; the whole forming a *small* collection of absurdities such as could be found nowhere but in a photograph gallery.

Then the subject stood with head, body and eyes to the front, heels together, and toes turned out in regular military precision, one hand grasping—not the musket—the chair or pedestal as the case might be, and every muscle as rigid as a post.

"O, yes; I remember, I had a picture taken that way once, and buther said I looked a zif I hadn't got by lesson and had been gept id after school."

Don't doubt it, Focus; I've seen pictures that looked as though they had done worse things than that. Well, it is not to be wondered at that such work went out of style; and we may rejoice that it did. Though

even now we occasionally find a Rip Van Winkle from up country, that wants just such a picture. But public taste, as well as the taste and good judgment of photographers, has made great progress within a few years; and nothing, perhaps, has done more to bring this about than the introduction of the beautiful and popular cabinet portrait. And what is applicable to them in this direction is applicable to larger or smaller pictures.

Now the idea is to have the operating room furnished something as we would furnish a nice parlor, or similar to this. Have tables, chairs, lounges, ottomans, hassocks, the same as we see in our homes every day, with a good variety of table and mantel ornaments, such as vases, flower-pots, with flowers, not too large, bronzes, a few small pieces, and a small library of books. These small articles can all be kept in a case, like this, made for the purpose, and are handy whenever wanted. Then the background is an important consideration, though one perfectly plain may be used with good effect. The one we have here works well; you see it is a sort of fresco, made quite dark, and the figure rather subdued. The lines dividing it into spaces give it the appearance of a richly papered wall in the picture. Then we have these light frames with rough sketches in them representing pictures, which may be hung on the background to suit the fancy or style of the picture.* With these we can make up a home scene that will make people exclaim: "Why, this was taken in your own home; isn't it nice?" And when assured it was made under a skylight, they can hardly believe it.

"Here cubs a sitter."

Yes, Focus, we must go to work now. A cabinet, or imperial card, as some call them. This gentleman, it seems, is a Rev., so we will try and make up something to suit his profession.

"Well, you wadt a pulbit, do'dt you?"

O no, Focus, I don't think he has come to give us a sermon to-day. We will represent him in his study surrounded with

his books and papers. Take a seat near this table; nearly a side view of the body, and turn the face so as to bring it about three-quarters. That will bring in part of the table, showing that book-rack, with books for his immediate use and some manuscript near where his hand rests. An inkstand with pens, paper-weights, and this little statuette of Faith, may be arranged on the table with good effect. It will be in keeping to have a book in his left hand, or it may rest carelessly by his side. For pictures of this style I have this piece, painted to represent a library or bookcase, which I place against the background on one side, showing more or less of it, as may be desired to give variety. One of the frames, representing a painting, may be hung towards the other side. Now, this background being quite dark, will bear to be brought well forward so as to come as near the focus of the instrument as possible. A little drapery introduced behind the sitter will help to balance the picture. Now, we want the subject well lighted, and give a good full exposure.

The next is a lady for a similar style. Well, we'll make up a parlor scene; first, however, lay down this piece of parlor carpet, and let her stand as if admiring this vase of flowers. Let the folds of her dress hang so as to give good flowing lines. A chair, or the end of the lounge may be introduced opposite the table, with a book, or fan, or any appropriate article lying on it. I will take the library out of the background and put another one of the frames in its place.

"Here, put this on the dable."

No, no, Focus; this lady don't want any prancing steeds in her picture. We'll use that when we have some sporting character. These things must be used judiciously, and there is more danger of putting in too much than not enough.

Now for the next.

"I want just a burst taken!"

Focus, this man says he wants a burst taken; I suppose he means a bust. We'll give him a 'burst' and let him go, hoping the schoolmaster may come round where he lives, some time, and prevent further mutilation of our American-English.

* This paper was in type for our last issue, but was crowded out. It ought to have appeared with our last picture, which is an illustration of the remarks of Mr. Vanweike.

The rest of these, Focus, seem to be all vignettes, and we will have another lesson on this at some future time.

DEAR PHOTOGRAPHER: Since writing the above, I see your correspondent, "Westley," has given some attention to me in your May number. May I be allowed to say a word therefore?

I am sorry that he should have taken what I said so much to himself. It is evident the fraternity would have suffered, had he been driven to such desperate measures as to sell his "traps at auction and leave for parts unknown." But I am glad to know Mr. Westley is not one to whom my remarks applied, as it seems he has his light under control, and displayed considerable ingenuity in managing it. I have written rather for the benefit of new beginners than for "old stagers" of eighteen years' experience.

But few of us are too old to learn, if we will, and nothing outside of our own practice is more instructive than the experience of our neighbors. There are some photographers that know all they want to; they never have any trouble; their chemicals always work well; they do not bother with any curtains about their skylight; they make pictures in almost no time; their light works well all day, "rain or shine," and they always make good work. To such I have nothing to say. We can all, doubtless, preach better than we can practise, for the best photographers feel every day that they seldom do more than to approximate their ideal of what they would like to do.

To attain perfection or control a light so as to get equally good results every hour in the day, is something that few intelligent men will claim, but all such appreciate the necessity of studying their light and governing it to the best possible advantage. So much is being said on this subject of skylights at the present time, that there would seem to be no excuse for any one not having some plan of working that will give them experience, if not improve their work. If every photographer in the country would take and read the *Philadelphia Photographer*, and go to the Cleveland Exhibition in June

with his eyes open and his mind prepared to receive instruction, another year will find us far in advance of the many grand results this year's Exhibition will produce.

R. V.

COLLODIO-BROMIDE PROCESS.

BY M. CAREY LEA.

Pyroxyline.—I hoped to have been able, in this number, to indicate some commercial pyroxyline that would give entire satisfaction, but have been disappointed. I shall still seek for it, and hope in the following number to give the information.

Meantime, I will briefly state the difficulties presented by pyroxylines. Some specimens, when coated upon the plate, appear at first to be perfectly even, but, if examined by holding up to the light, show an unevenness which, when slight, is a mere clouding, parts being a little thicker, others a little thinner, and so gradually blended that no demarcation of either can be found. When this is very slight it does not spoil the plate. When the cloudy disposition is strongly marked, it produces a mottled film all over the plate, worse at the corner where poured off. This mottling is apt to show in the negative, especially in flat tints like the sky. Other specimens show a want of intensity, so that the development cannot be complete with alkaline pyrogallie acid, but a redevelopment with pyrogallie acid and silver must be used. Others, again, let the developer through in irregular spots like tessellated work or coarse mosaic, showing in the finished negative in stains all over the plate. A good cotton is completely free from all tendency to these faults.

Sensitizing.—I find the best results from adding 2 drops of aqua regia to each ounce of collodion, and sensitizing with 18 grains of nitrate of silver. Where there is a want of intensity this may be aided by adding 1 grain of chloride of copper. In this case the nitrate of silver must be raised to 20 grains, and a little more alcohol used in dissolving it, say $2\frac{1}{2}$ to 3 drachms to each 20 grains.

Bromide of Cadmium.—It is desirable not only to have a pure specimen of bromide of cadmium, but also to keep it well corked.

This substance is only known commercially in the crystallized state; that is, the substance that we use does not merely consist of bromine and cadmium, but contains also four equivalents of water to each equivalent of bromine and of cadmium. The crystallized salt has a strong tendency to effloresce in dry air; it turns white and loses one-half of its water of crystallization. Of course this change alters its relations to nitrate of silver, so that, in the effloresced state it requires more nitrate of silver to decompose it. But a change of this kind is not often so complete as to enable us to calculate the exact changes in quantity necessary to compensate for the loss of water. Effloresced or whitish bromide of cadmium should therefore be avoided, and the clear transparent salt only should be used. An examination of a bromide of cadmium bottle that has been left uncorked for a moderate time in dry weather, will enable the operator at once to recognize the difference between the two sorts; such a bottle will be apt to show a white opaque layer of effloresced bromide on top of the same substance in its usual condition.

Penetration of Solutions.—I have lately noticed in one or two instances the following occurrence, after having made many hundred plates without knowing it to happen once: the preservative bath penetrated the film and made a sort of blister, some of the solution remaining between the film and the glass. I have only seen this happen with an old collodion made out of an old pyroxyline kept over two years before dissolving. The remedy lies in not leaving too long in the washing-bath or in using fresher materials.

Sensitiveness.—To exhibit the extraordinary sensitiveness of this process I give the following: on the twelfth of this month I exposed a plate before eight A.M. for ten seconds, which proved to be an ample exposure. Size of plate, $6\frac{1}{2} \times 8\frac{1}{2}$; stop, $\frac{1}{3}$ th focal length. The development was easy and rapid, complete in four or five minutes, no redevelopment needed. The subject was not a wide or distant view, no object appearing on the plate more than one hundred yards distant. The foliage was full of detail. With an extended view at mid-

day and a large stop, the exposure might have been greatly reduced. I think a wet plate would have needed twice the exposure. This plate was prepared with gum and sugar only.

Preservative.—When the preservative is gum and sugar, either alone or with litmus or tannin, the proportion of gum should *never be less than 15 or 18 grains to the ounce.*

THE PHOTO-CRAYON PRIZE.

No doubt those who have been making Photo-crayons are preparing their best possible work for the Exhibition, in order to compete for the prize medals offered in our last issue by the Messrs. Lambert for the best examples exhibited. Those who have recently begun making them would do well to look into this.

Most beautiful results continue to be secured by those working the process in our city, and we have some that we highly prize.

Remember, they must be made *well to look* well, and if you do not succeed at first, do not condemn the process or the style. If you can make good negatives, you can make good Photo-crayons by means of the instructions given by the Messrs. Lambert. At Cleveland they will be present with the simple apparatus necessary to explain the whole manipulation, and there will be a good chance to see the value of the process.

We cannot see how any good, pushing, intelligent photographer can fail to make a success of this beautiful style of picture.

OUR NEXT PRIZES.

Our next prize offers will be the following:

1. *A gold medal* for the best portrait photograph, vignette or otherwise, from retouched negatives.

2. *A gold medal* for the best portrait photograph, vignette or otherwise, from negatives not retouched.

3. *A gold medal* for the best composition or *genre* picture.

4. *A gold medal* for the best landscape picture.

To be at least two negatives of each sub-

ject, as nearly as possible alike, and of size suitable for our illustration. The regulations will be similar to those heretofore made in offering our premiums. Further particulars, with the time given, will be announced in our next. We make this much of an announcement that those who anticipate competing may lose no time in preparation.

NOTES IN AND OUT OF THE STUDIO.

BY G. WHARTON SIMPSON, M.A., F.S.A.

Photo-Mechanical Printing Processes in Europe—In a Fog—Mounting without Cockling—Simple Remedy for Pin-holes.

Photo-Mechanical Printing Processes in Europe.—I have just been favored with a copy of the report made to the Indian Department of our government by my friend, Lieutenant Waterhouse, of the Royal Artillery, of the cartographic applications of photography in Europe. Lieutenant Waterhouse is in charge of the photozincographic department at the Surveyor-General's office in Calcutta, and, having been on sick leave in this country, he obtained a commission from his department to visit the principal cities in Europe to investigate the various cartographic applications of photography, and the various photo-mechanical printing processes employed to multiply the maps and other topographical documents produced. His report is voluminous and full of interest, possessing the special value of being the work of an investigator, himself practically familiar with the operations in many of the photo-mechanical printing processes.

It is a noteworthy fact, that after visiting every establishment connected with this branch of our art, of any reputation, in Europe, Lieutenant Waterhouse does not appear to have met with any photo-mechanical process giving really good halftone, except Woodbury's, which he pronounces as undoubtedly the most perfect of all processes of this kind in yielding halftone. At the time of investigation, 1868, Herr Albert's process was unknown, but he describes the process of Tessie du Mo-

thay, to which, in many respects, Albert's process is manifestly closely analogous.

The operations described in the report are those of M. Mareschal, the co-patentee of Tessie du Mothay, the printing establishment being at Metz. The largest number of impressions ever obtained from one plate, however, at this establishment, has been about a hundred, whilst Herr Albert has considerably exceeded a thousand.

In speaking of these photo-collographic processes, it just occurs to me to correct an error of conception which I have noticed prevails somewhat commonly. After exposing the film of chromated gelatine under a negative, the soluble gelatine is *not* washed away. The plate is placed in cold water to wash out the unchanged bichromate, but no portion of the gelatine is removed by washing; the film remains intact, a layer of gelatine possessing as many varied degrees of insolubility or impermeability as there are gradations in the picture. Where the light has passed freely through the transparent parts of the negative, the gelatine has become quite hardened, and absorbs no moisture when sponged with water. This part takes a fatty ink freely, and so prints blacks. The portion which has been fully protected from light retains the ordinary capacity of gelatine for absorbing water, and, of course, when saturated with water it repels ink, and so prints pure whites. The varied degrees of hardening by light between these two regulate the absorption of water, and the consequent affinity for fatty ink, and so the varied gradations are printed. I have endeavored to restate this principle carefully and clearly, because I have seen on more than one occasion in print that it was not clearly apprehended, and because I think it probable that photo-collographic processes will play an important part in the photography of the future.

As I believe the operations at Metz have not before been described by an eye-witness, it may not be uninteresting to give a brief extract from Lieutenant Waterhouse's description of the operations as he saw them performed. He says:

"A plate of copper is grained with sand, and then coated very evenly with a mix-

ture containing gelatine and the bichromate of potash, and possibly some other substances, and is dried by exposing it in an oven to a heat of 122° F. for some hours. These plates may be kept two or three days, sometimes more, before use. The plates thus prepared are exposed in diffused daylight under a *reversed* negative for about half an hour; they are then taken out of the printing-frames and washed under a rose-jet of water until all the chrome salt is dissolved out and then dried in the open air. After they are dry it is better to put them away to harden for a day or two than to proceed to print them at once. However, to show me the process, copies were printed off the two plates I saw exposed. The dried plate is taken to a lithographic press and placed on a stone which serves as a support. It is dampened with water in the usual way, which causes those parts of the gelatine film which have not been acted upon by light to swell freely, and the exposed parts to swell up according to the degree of protection they have received, and thus the plate presents the appearance of a graduated mould; it is next rolled in with a roller and lithographic ink modified to suit the process. The rolling-in takes longer than with a stone and requires some skill and care. The effect of the inking is, that the water contained in the pores of the higher parts of the gelatine film, which have undergone little or no change by the action of light, repels the ink, whilst the insoluble parts which have been acted on by light and remain sunk, take up the ink in proportion as the action of light has rendered them impenetrable by water. The more the gelatine has been altered the thicker will be the coating of ink taken up. The paper is laid on dry and the proofs are pulled in the ordinary way; they are then trimmed and mounted. The effect of printing the plates too soon is, that the paper sticks to the film and is torn in pulling off, leaving little white spots over the print. I saw a great many perfect specimens of the process, the most delicate details being rendered with a perfection seldom seen in any other process."

This process has not come into commercial operation to any extent, whatever

may be its capabilities. Indeed, photography is practised very little indeed in France, which was, so far as the bichromate processes are concerned, its birth-place. So far as I can learn from this report, there is a general tendency in many important photo-lithographic establishments to return to the use of bitumen processes for line work, and I have seen many fine results produced by these methods.


In a Fog.—I have been much amused and interested by Mr. Anderson's diary of a sojourn in fog land, which may readily be conceived to represent the bewilderment of a novice dipping at random into various chapters in photographic literature instead of steadily mastering principles. Mr. Anderson is rather severe, however, in representing his typical novice as selecting with perverse ingenuity fragmentary passages to make different authorities contradict each other. I am reminded of the story of an old Puritan divine who, having been requested to preach a sermon against a practice then prevalent of wearing towering head-dresses, gave out as his text, the words of which sounded to his hearers as "Top-knot come down!" On referring to chapter and verse they found the passage standing thus: "Then shall they who are upon the house-top *not come down.*" By dislocating passages from context and subject our typical novice has been made to find out that authorities sadly contradict themselves or each other as to the use of nitric acid and acetic acid in the nitrate bath, and the advantages or disadvantages which may be gained from either. Whilst, however, it must be conceded that in matters of practice authorities may reasonably differ without either being absolutely wrong, the careful student will quickly discover the source of the mental fog which his brother novice's diary presents. A reference to the context in the authorities quoted will generally show that where the advice differs it has reference to distinctly different things. For instance, the advice used at one time not unfrequently to be given to use acetic acid in the negative bath and avoid nitric acid. But it must be remembered that at the same time simply iodized collodion without any bromide was recommended. Now,

as a point of practice, it is tolerably well ascertained that nitric acid is a decided retarder when simply iodized collodion is employed, whilst with a bromo-iodized collodion nitric acid has no such effect, and that with a simply iodized collodion acetic acid in moderate proportion, was not a retarder, and the acetate of silver frequently formed was, under some circumstances, absolutely an accelerator.

It would not be difficult to harmonize the greater portion of, if not all, the contradictory passages quoted. Mr. Anderson doubtless intends the reader to make for himself the very obvious reflections on the importance of studying each process as an entirety, remembering that disjointed formulæ, not duly related in all their parts, will generally bring failure, and that success can only be found in the harmonious relation of collodion, bath, light, and developer. The one thing imperatively necessary in photography, which the operator cannot purchase of his stockdealer, is brains. The great aim of the *Philadelphia Photographer* is to supply, or, rather, to develop and cultivate brains. The more brains an American photographer possesses the more certain he is to read the *Photographer*, and the more he lacks brains the more important it becomes that he should read it. If this fact could only be duly impressed amongst the photographic community, there would not be a photographer in the Union whose name was not on your subscription list.

Mounting without Cockling. — Referring to some hints I recently gave for a new mounting material to prevent cockling of thin boards, a correspondent sends me the following hints for a method of mounting, which he has found very efficient to prevent cockling:

"Stroke the proofs by drawing them face down on a sheet of glass, and under a piece of stout cardboard, held vertically (the proof being drawn upwards). Coat the backs with starch of good domestic make, laid on with a sponge; its consistency should be such as to leave a gloss when dry. Now trim the proofs, and on a smooth-faced lithographic stone lay a mount of the required size, mark with space-lead the

furthest left angle and side thus , then centre the proof and mark its register, and adjust the press to a good firm pressure. Now lay down the dry proof to aforesaid mark, then, with a well-wrung sponge pass quickly over the mount in a longitudinal and lateral direction, and place it on the photograph. Pull once through the press, and the operation is complete. In this way I have mounted some thousands of proofs with great precision. By substituting a stone for the steel plate bed an ordinary rolling press may be used, but a lithographic press is much superior, and the danger of buckling is avoided. A German friend, in expatiating on the superiority of the scraper over rollers for litho work, concisely explained, 'It ish de nip.' "

A Simple Remedy for Pin-holes.—As the summer approaches the photographer needs to be prepared for the varying conditions which hot weather often introduces into photography. The portraitist is very familiar with the fact that towards the close of a hot day a crop of pin-holes will suddenly appear on his plates. He knows that this probably proceeds from an accumulation of iodide of silver in the bath, and at the close of the day he is quite prepared with the remedies in such case made and provided. But an immediate and temporary cure without stopping work would often be regarded as a great boon. Such a remedy was recently mentioned to me by Mr. Blanchard, who had repeatedly found it most useful. It simply consists in adding to the collodion in use about one-fourth of its bulk of plain collodion. The film fully charged with iodide, and the bath fully charged with iodide, coming into contact, at once produce the fine crystals which cause pin-holes. The film being less fully charged with iodide changes the conditions, and an instant relief from this trouble follows the application of the remedy.

NEW YORK CORRESPONDENCE.

THE May meeting of the Photographical Section of the American Institute was held at the usual place. Mr. Chas. Wager Hull, Vice-President, in the chair.

After the routine business was disposed

of, Mr. Mason spoke as to the merits of Mr. Newton's process for preparing silvered paper. He thought it was just what we wanted. Inasmuch as he had not yet concluded his tests of the process, it was agreed to pass it until the June meeting.

Mr. H. T. Anthony said that he had resorted to many expedients to keep silvered paper. He had found that, with two floatings upon distilled water, it kept well for nine or ten days; but at the end of thirty days it became yellow. He also stated that if silvered paper was floated upon three changes of ordinary drinking-water, it would keep well for a month, which he thought was probably due to the trace of chloride found in all such waters. Such paper must be printed in fumes of ammonia, which was easily accomplished by having the pad in the printing-frame well charged with it; and also that, in addition to this, the paper should be fumed in the usual way.

Mr. Newton stated the results of his comparative experiment with his tea process and Lea's collodio-bromide process. He exposed plates prepared by each, subject to same conditions; fully followed Lea's directions, but could not obtain a negative of sufficient intensity; with his own he had no trouble. He stated that the time and labor saved in the collodio-bromide process was lost in the tedious development; while with the tea and iron developer all worked quite to his satisfaction.

Mr. Chapman, in answer, said that he thought most favorably of the collodio-bromide process. He was not at all troubled for want of intensity, but quite the contrary; he had too much. He considered the charm of it was in the latitude allowed for exposure. He had exposed at the same time upon a view, thirty seconds and four minutes, and exhibited prints to prove his statements; one was as good as the other, and to distinguish the long from the short exposure was simply impossible.

I have not worked by either process, but have seen superb work by both. Three 8 x 10 views of collodio-bromide received a few days since from M. Carey Lea, Esq., most assuredly leave little to ask for. They are full of detail in the shadows, soft and

well-balanced in their contrasts,—indeed, are quite perfection.

Mr. Newton exhibited some very fine glass positives made with collodio-chloride, and printed from the negative by contact. The tone was of a rich warm chocolate, to obtain which he flowed the plate after development with a solution of pyro, one grain; silver, eight grains; water, one ounce; washed well, toned with gold, and fixed in hypo.

He said that in making transparencies by this process, it was important to dry the substratum of albumen by heat, and as soon as cool flow with collodio-chloride. If dried spontaneously, pinholes would follow.

He made many efforts to obtain negatives by this process from the positives so obtained, but could not succeed. The negative would be full of pinholes, and the positive would fade away and be destroyed.

Mr. Mason presented for inspection four samples of nitrate of silver. Three of them he had prepared, and pronounced absolutely pure; one was dried in a glass dish in the dark, and gave superb crystals; two were dried in the sun, and gave product of muddy dark crystals. Another sample of commercial nitrate was also dried in the sun, and gave crystals somewhat darkened, but far brighter and better than pure silver. The difference was thought due to the trace of nitrate of potash in the commercial sample. It was thought by some that the two samples of pure which crystallized so dark, was due to the fact of their having been treated in porcelain dishes, while the good sample was treated in glass.

Mr. Mason thought that the difference was not due to any such cause, but would repeat his experiments in glass and report at the subsequent meeting.

Mr. Chapman exhibited twelve 3-inch photographs of the sun, made between the 11th of March and the 14th of April, showing the so-called spot; which spot Mr. Chapman declares to be a hole of very respectable dimensions, to wit, 70,000 miles across its top, but how deep he did not know. One thing is certain, if we poor mortals, including all our goods and chattels, together with all our real estate, should happen to fall therein, we would not be found in a hurry. In considering the pos-

sibility of filling it, but one plan suggests itself to my mind as at all possible, and that is to have the men who issue the new stock for the Erie Railway Company to take the job. I fancy they could make enough to fill space; paper and ink would be the only trouble. They would find a way to sign them.

In view of the expected visit of Dr. Herman Vogel, whom all know so well as one of your correspondents, the following committee was appointed by the Vice-President to receive him, and to take such action in behalf of the Section as may appear best to them: Prof. Chas. A. Joy, Prof. S. D. Tillman, Henry T. Anthony, Wm. Kurtz, and Peter F. Weil.

It is to be hoped that our honored fellow-laborer and teacher in photography may be as much pleased with his visit to the New World, as we shall all be to receive him.

Adjourned to Wednesday, June 1st.

C. W. H.

NEW ENGLAND PHOTOGRAPHIC ASSOCIATION.

THE regular monthly meeting of the Association was held on Tuesday evening at Mr. Black's studio, Boston, May 3d, 1870, the President, E. L. Allen, in the chair.

The minutes of last meeting were read and approved.

The Secretary read a letter from Mr. G. W. Lovejoy, containing a description (and photographs) of his arrangements for saving silver waste, both before and at the time the Shaw & Wilcox Co. commenced suit against him.

In the absence of the chairman of the committee appointed to procure an official copy of the Shaw & Wilcox patent, Mr. Southworth said that while in New York he called upon Mr. E. Y. Bell, counsel for defendant in the Shaw & Wilcox suit, and learned that the case had been argued before Judge Blatchford, *pro* and *con*, and that we must now wait the decision of the judge. Stated that he had a copy in pamphlet form of the evidence, which he would leave with the Secretary, that all members could examine it who wished.

Mr. Southworth read Shaw's claims,

which seemed to cover all means of saving silver by precipitation, and the judge stated that if it covered what Shaw claimed it was a terrible one. He could not say too much in favor of Mr. Bell; thought he was the right man in the right place, and had done his duty faithfully, and, if the suit went against Lovejoy (as he did not think it would) they might have the privilege of trying Mr. Black, or Mr. Wing, or some other photographer. He understood that the judge had said that it was unlawful to combine to put down a patent, but that individuals could contribute what they saw fit towards paying the cost of the suit.

The President read a letter from Mr. E. L. Wilson, stating that he felt sure of success against Shaw.

Mr. Allen, in a few remarks, said that he thought Mr. Wilson was working for the good of *photographers*, and we should give him all the assistance possible.

Mr. E. S. Dunshee was proposed, name referred to Executive Committee, approved, and declared elected.

On motion voted that Sec. 6, Article II of our Constitution be abolished.

The President read a letter from Mr. Loomis, stating his desire but inability to be present to-night; regretting, also, that he could not go to Cleveland an account of his European trip for which he was now preparing.

Voted that when we adjourn it be to the last Tuesday in May. Adjourned.

E. F. SMITH,

Secretary.

In my last report I neglected to state that there were some fine specimens on exhibition, of photo-crayons made by Messrs. Allen and Marshall. Mr. Crompton has been selling the process and crayon sheets for the agent, Mr. Alden. E. F. S.

FERROTYPERS' ASSOCIATION OF PHILADELPHIA.

A STATED meeting of the Ferrotypers' Association of Philadelphia was held at Mr. E. K. Trask's gallery, Tuesday evening, May 3d, 1870, the President, Mr. A. K. P. Trask, in the chair.

After roll-call it was resolved to postpone all regular business for one week, excepting that which pertains to the death of Mr. E. F. Warrington, our late Vice-President.

On motion it was resolved to appoint a committee to draw up appropriate resolutions to be entered on the minutes of the meeting, a copy of the same to be neatly engrossed and sent to the wife of deceased, and to be handed in with the minutes of the meeting for publication in the *Philadelphia Photographer*.

The committee appointed were Messrs. Thomas Brooks, A. K. P. Trask, and D. Lothrop.

The following preamble and resolutions were reported by the committee and unanimously adopted by the meeting:

WHEREAS, it has pleased Divine Providence to take from our midst one of our late members, therefore be it

Resolved, That by the death of our late Vice-President, Edward F. Warrington, we have lost a true friend and faithful associate.

Resolved, That in this hour of affliction we desire to show our sincere respect to the memory of our late brother, by offering to his bereaved family our heartfelt sympathies.

The chairman of the committee, Mr. Thomas Brooks, was authorized to attend to the engrossing and presentation of a copy of the above to the wife of our late Vice-President.

Voted to adjourn, to meet again in this same place one week from to-night.

D. LOTHROP,
Secretary.

May 10th, 1870.

Adjourned meeting of the Ferrotypers' Association, the President, Mr. A. K. P. Trask, in the chair.

The roll was called and minutes of last meeting read and adopted.

Mr. Trask, in behalf of Committee on Skylights (alluding to the recent severe hail-storm), reported a great many out and in bad condition; also progress.

Mr. Brooks, on the presentation of resolutions to Mrs. Warrington, reported progress.

The subject for discussion this evening

was, "The best manner of cleaning ferrotype plates that have been used."

Mr. Lothrop's way was to put every rejected plate of pictures, soon as taken, into a dish of clean water, and, after the day's work was done, to take a chamois and rub off the film, keeping the plate under running water during the operation. After washing the plate perfectly clean it is to be placed between blotting-paper and immediately dried, when it is ready for use again.

Messrs. Trask & Bolles's manner of proceeding was, to have a square block of wood covered with woollen cloth, and to rub the plates upon it under running water, and, when clean, hang up to dry, and then if water-marks appeared on the plate, to remove them by rubbing with the chamois.

Mr. Eberly, a visitor to the meeting, being invited to give in his views on the subject, said that he had seen the ferrotype plates nicely cleaned by placing them under running water and rubbing them with a small block of wood covered with India-rubber, and, as soon as the coated film had been washed off, and the plate hung up, all the water would immediately run off and leave the plate perfectly clear and free from all spots of any kind.

On motion it was resolved that each member report at the next meeting his success in trying the different methods suggested.

On motion it was resolved that we now exhibit our pictures.

Two of Mr. A. K. P. Trask's pictures were decided to be the best. Thus, the second exhibition of pictures for the prize medal was in his favor. The exhibitions are to continue each month for the balance of the year.

Voted to adjourn to Mr. D. Lothrop's gallery, 43 North Eighth Street, Tuesday evening, June 7th, 1870.

D. LOTHROP,
Secretary.

VENTILATE your dark-closet and save your health. Don't be afraid to have it light enough, so no white or actinic light is admitted.

Ayres's Chart of Photographic Drapery.

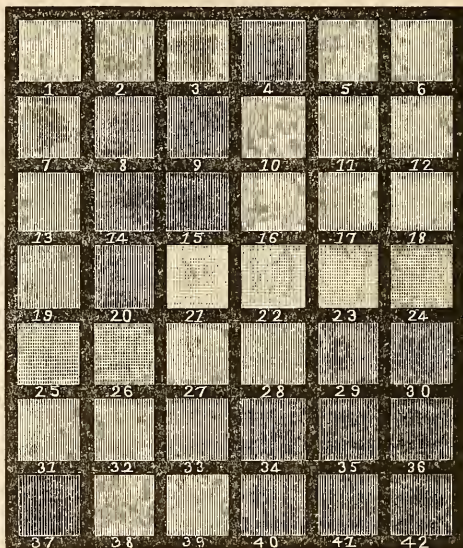
MR. GEORGE B. AYRES, whose capital work, "*How to Paint Photographs in Water Colors*," has passed through two editions, of a thousand each, and is probably in the hands of very many of our readers, has again supplied a want to the profession which is likely to be as substantially appreciated as his book.

Every one who has worked at the camera knows what perplexities arise from the want of something to show the customer how this or that color will "take," or, rather, how it will "look" in the finished photograph. The photographer is continually annoyed by parties who will sit in a certain dress, and then, finding it does not "look" as they desire, insist on a second, or even a third sitting, averring as a reason that they "do not like the expression," when the real fact of the matter is, they do not like the dress. All this is done at the expense of the photographer, and he cannot very well avoid it if he would be considered accommodating.

Mr. Ayres, however, has opened a way by which the trouble may be entirely overcome. He has collected, with a great deal of care and after much trouble, *forty-two* squares of woollen fabrics, of the varied colors and shades known in the dry goods trade, and arranged them systematically in rows, each square having a number. They are then carefully photographed, size about 11 x 14, mounted on a card 17 x 25, with a numbered table of the colors, and a full explanation in Mr. Ayres's graphic style, printed thereon. The accompanying drawing of the chart will make its arrangement more plain and intelligible. (Please see advertisement for further particulars.)

A specimen copy is before us, and we pronounce it a most perfect and useful affair, such as every photographer has long wanted, and such as every photographer should have to exhibit to every lady customer. Then, if Maria comes to be "taken" in her new, pet blue dress, and, finds it will "look" absolutely *white* in the picture, she can save both her own and the photographer's time by postponing the sit-

ting until she can appear either in her old wine-color, or until her snuff-brown is done.



She *sees for herself*, and thus avoids the dreary explanations, argument, and trouble to which the profession has always been subjected.

We think photographers will readily perceive the value of Mr. Ayres's chart, and place a copy in their galleries forthwith. Our publishers have undertaken to issue it for him, and copies may now be had. For list of colors included, please read the advertisement.

OUR PICTURE.

THE picture presented to our readers this month is from the gallery of Mr. W. Kurtz, New York, and is a veritable "Rembrandt Effect." In most of the pictures we see called "Rembrandts," the "Rembrandt Effect" is given in profile, where undoubtedly some of the best results prevail; but in the example we give herewith, it will be perceived that a three-quarter face has been chosen, and the peculiarity of the "Rembrandt Effect" is shown in its very happiest style. There were four negatives used in printing our edition, each a little different from its neighbor; all remarkable for their softness, exquisite light and shade,

and perfect transparency in the shadows, yet all full of delicate detail. As a general thing, nine-tenths of the photographers put their pictures a little out of focus in order to get softness, whereas Mr. Kurtz's pictures are remarkable, and specially noted for their sharpness and excessive softness at the same time. The detail here, even in the darkest parts, is wonderful.

The negatives are entirely unretouched; were made with a "3 B" Dallmeyer lens, $2\frac{3}{4}$ inches diaphragm; one turn diffusion of focus. Bath, 40 grains. Collodion, equal parts of ether and alcohol, 3 grains of bromide, to 5 grains of iodide; Liesegang's Papyroxylene, 5 grains. Time, 20 seconds. Printed in the shade. Mr. Anderson will give further particulars on the pictures soon, in his "Fog" papers.

The mounts were gotten up by Mr. Kurtz to suit his own fancy. Altogether, it makes a very grand illustration for our holiday (Exhibition) issue.

In our next will be a full record of the proceedings at Cleveland, accompanied by another elegant "Rembrandt Effect" from the studio of Mr. W. J. Baker, Buffalo, N. Y. Other fine things are also in preparation.

WINTER ON A MOUNTAIN.

BY A. F. CLOUGH.

IN November, 1869, Professor Huntington of the State Geological Survey, and myself, proposed spending the winter on Moose Hillock (or Moosilauke is the Indian name), a mountain of about five thousand feet elevation, about thirty miles southwest of Mount Washington. It is an isolated peak, no near mountains to cut off the prospect, and nowhere are the White Mountains seen in all their grandeur as from here. The tourist who does not visit it loses the beauty and sublimity of White Mountain scenery.

We made the first ascent about November 20th, to get up wood and prepare for our stay. The snow had fallen and drifted, so that we were two days in getting up with our horses, having to retreat the first night when we had got within a mile of the house, the weather being blustering and

cold, some of the party freezing their feet. The next day was pleasant, and we again went up and reached the house, finding the weather warm and pleasant, stopped three days and got up our wood, being assisted by some six young men of Warren village. Got our wood into the house, a substantial stone building 36 x 60 feet, similar to those on Mount Washington. In this we prepared a small inner room which we made tight and comfortable. In December we made several ascents to get up provisions, books, instruments, etc. The permanent stay was delayed by an accident to myself in getting lamed in my foot until December 31st, when we left the valley with cheerful hearts and heavy loads of "traps" on hand-sleds, to ascend the mountain. The day was warm, and, as we got higher up, were obliged to leave some of our loads to be returned for next day.

As we gained the open space above the trees, the view was one of wild grandeur. Dense masses of clouds, broken up in wild confusion, rolled away to the south, some dark and heavy, others light and fleecy; some black, with golden borders; others white, with rose-tinted edges; some of light gray, just grazing the tops of the lower and tree-covered summits; others of a dull lead color, floating at the base of the highest and snow-covered summits of the White Mountains. Some of the mountains were in the full blaze of sunlight, giving a dazzling whiteness; others were in the shadow of clouds and had a soft, rosy hue; others were of deepest blackness, thus giving a panorama of the wildest beauty.

The magnificence of the scene made us forget the hardship of the ascent, and, as we drank in the scene, we were convinced that those who desire to behold the beautiful must toil for it.

As we gained the summit we were enveloped in a dense cloud. We had a fine view of frost mist at short range and we were glad to get inside of the house and close to a fire.

IN THE CLOUDS.

We were enveloped in clouds about three-fourths of the time, of such density that we could see but a short distance. There were

but few days when it was clear on the mountain and in the valley. Sometimes by going down a short distance we would get below the clouds, when just overhead they would drive along in wild confusion, occasionally shutting out the view, then bursting suddenly away they would leave us in dazzling sunlight.

FROST FORMATIONS IN THE CLOUDS.

It seldom ever snows as we see it in the valley. The frost mist is always moist enough to attach itself to any solid substance that it comes in contact with, always forming on the side to the wind and building up parallel to the course. The formations resemble feathers of purest white; sometimes they are formed into plumes of the most beautiful forms; they are hard and not easily broken, and adhere firmly to the object, frequently making a small twig, no higher than your finger, a foot in diameter.

ABOVE THE CLOUDS.

This is a scene that is grand beyond description, up in an atmosphere of unclouded purity of azure blue, the clouds far beneath us like a vast ocean studded with islands where the dark tops of the mountains rise through it, whilst the tops of the White Mountains resemble huge icebergs glistening in the sun with dazzling brilliancy. Here and there would be a ragged rift where you could see through and get a glimpse of the world below, resembling, where it opened into the dark mountain gorges, a huge cavern, and at other places it was looking through into another world.

As you stand gazing out upon the vast ocean of clouds, you are carried back over vast ages of the geological eras of the world, and you see the land as it was when it first began to rise from the ocean, only here and there an island, while huge icebergs were driving and drifting over the tops of the lower mountains and hills; when no animal life animated the scene, but one vast solitude, broken only by the wild howl of the wind, dashing of the waves, and the rumbling and crash of the icebergs as they were dashed to pieces on the rocky shores; a feeling of lonely solitude creeps over you, and, for the time, you live in the remote

ages of the past, and are lost in the vain attempt to comprehend the beginning of the world's history.

(To be continued.)

WRINKLES AND DODGES.

WATER! WATER!—In May or the beginning of June last, I caught a bottle of water after a storm of some fifteen hours hard rain. Found it very clean by use. The part not used, I set on a shelf in my dark-room, within four feet of the tin-roof, in a glass stoppered bottle.

It must have been as late as September or October I had use for clean water, but rejected that without an examination, supposing it to be rotten. In a few days there came a hard storm, and I took down this bottle to throw out the water and catch more. To my surprise it was sweet, both to the smell and taste. I then threw into it a crystal of silver, and set it in the sun, and the only precipitation produced was a very, very slight color. I used it, and it made a valuable and lasting negative bath.

I mentioned this matter to a German druggist the other day, and learned from him this fact: that in one of his old medical books brought from Germany was this statement: "That water caught in a clean vessel, in a storm between the 15th of April and the 15th of May, was almost absolutely free from organic matter."

Is this fact of sufficient importance to the fraternity to be tested? If so, let us bottle up water from all the storms in May and early June, and label them with the date and number of hours it had rained when the water was caught! I, for one, intend to save enough for the year's consumption.

W. P. BENNET.

[THE following method of getting *intensity* we believe to be entirely new, and to cover all equivalents. We extract it from a communication from one of our German subscribers, and give it *verbatim et literatim*.—ED. P. P.]

"A fellow vat couln't git te plack tra-peries come to me a few days ago to see vat coult help him. He sait he hat drite efery-tings; and set he, 'I put a little plack ink

in te bath, too, and it didn't to ein pit of goot.'
I vash so mat at him—vel I coul't *kickt*
him."

I HAVE a little simple thing here of my own. It is a piece of oiled tissue-paper pasted on a collar-box cover. I use it to look at my prints in my solar camera. By holding it between the negative and small tube, it answers the same as, or better than letting in the light to see whether the print is dark enough or not. A fine ground-glass answers the same. Try it, and notice the effect.

F. L. MITCHELL.

I HAVE retouched my negatives to some extent for about two years, and I find the best way to prepare the surface for the pencil is to use a very thin varnish, and let it dry slowly. This gives a dead surface easily worked upon, and marks can be erased if desired. Most varnishes, when first opened, are thin enough; if not, dilute with alcohol.

H. BESANCON.

I WANT to suggest an improvement for dark-tents. Cut a round hole in the bottom large enough to admit a half-gallon funnel of colored glass, yellow or green. Place a small rubber pipe over the end of the funnel, and pass it through a staple in the back of the box, reaching nearly to the ground. Then have a dry place to stand, without being splashed with muddy or dirty water. This will also serve as a light to develop over, and as a fine tank for washing over.

C. W. BROWN.

BEING troubled with a very foggy bath not long since, I tried several remedies without anything like a cure. I then took a few grains of *permanganate of potassa*, dissolved in a little water, added little at a time, shaking well; allowed it to stand several hours and filtered. It came out perfectly clear, and every trace of fog removed. It will also clear a discolored printing solution in a few hours. Give it a trial.

F. THEO. MILLER.

TO OUR GEM BRETHREN: You have all found it difficult, in using more than one tube and lens, to get every image in focus by sliding the ground-glass. I am working a plan, cheap, easily made, and, if giving

good results, is certainly desirable. It never fails with me. I use four $\frac{1}{4}$ tubes, placed in a block, the hole *bushed* or lined with soft leather, so that with each tube, by a slight turn with the thumb and fingers, a focus can be had. The plan works admirably, and saves the expense of rack and pinion. In making the block I glue and screw together two dry boards, laying them cross-wise with the grain, so that the tendency of one to warp is counteracted by the other. The block should be about $1\frac{1}{4}$ inches thick when finished, to hold the tubes steady, which a thin board will not do. The same principle works equally well with $\frac{1}{8}$ th size tubes.—A GEMIST.

THE only *mechanical* way of retouching I have found is by *smoking* the negative on the back. It is most excellent for copies, where you have not sufficient strength. It is done *instantly*.

Warm the negative, then bring it down on the flame of gas where you want it more dense; then touch it out where you want it to print denser,—for instance, the hair, eyes, nostrils, drapery, etc.,—with a dry pencil brush. Or, if you want to soften any shadow, no matter how small, turn the gas down low, and just touch the flame where you like it softened, and your work is complete. Always smoke the back side of the negative. If you do not get it right, rub it off and try again.

E. J. FOSS.

SOME little time ago I wrote to you in relation to the "lack of intensity in my negatives." You were very kind to answer and suggest remedies, but all to no purpose. It was a source of much perplexity to me for a long time. At last I discovered the difficulty, which was very simple (as are all our troubles) when known or discovered. The window in my dark-room opens to the south, and over the window (which is of clear glass) I had several sheets of yellow tissue-paper pasted at the top and hanging down loose. When the sun was on the window I would work with them all down, but when the light became weaker I would "*pin*" some of them up. Well, by constant pinning, the paper became (very naturally) perforated with "*pinholes*." That was the principal cause of the want of intensity.

But I found still another cause. My sky and side-light face the south, and in clear days (which by-the-by have been very rare in this latitude this fall and winter) the light penetrates the camera more or less, and of course lessens the intensity. H. MEAD.

What our correspondent supposes is "lack of intensity," is a bad case of fogging.—ED.

A GREAT deal has been written and said about pinholes. Maintaining that a bath exposed to light during use will give pinholes, I have about come to the conclusion it is oftener the fault of the collodion than the bath, and light has nothing to do with it. A few days ago I made some new collodion. I coated a plate dipped in my bath, which is a glass covered one, and lo, the plate was full of pinholes. I tried another bath with the same result. I tried my old collodion, and all was right. I was in a dilemma. It was surely not the bath that caused it. I dipped another plate with the new collodion; I found the film very creamy. I reduced it with plain collodion; result, less pinholes. I reduced it more, which gave me a thin blue film, but no pinholes. It worked very quick and developed a soft negative. In this case I am certain it was not the light acting on the bath nor the bath itself, but the collodion. I think all have philosophized on the production of pinholes, but no one has ever taught us how to prevent them. I have had them often, but always got rid of them without throwing away my bath. I used to bother with the bath, but I came to the conclusion pinholes may be got rid of by doctoring the collodion and harmonize it with the bath, in place of the bath with the collodion.

E. A. KUSEL.

I HAVE tried every way of mounting prints, but like my own way the best, which is this: Take them from the water and lay them between two clean white cloths, which will absorb the water; then, while moist put them on a neat pile, care being taken to have them even. Then paste, and there will be no danger of paste getting on the edges, and you will not have to put in your tongue to lick it off, as I have seen many do.

R. F. CHANNELL.

I USE a common wood faucet, which projects below the spiggot about an inch. To this I had a tinner fit a cap, with four small nozzles, each of which let out a stream of water about as large as a knitting-needle. The advantage is, the water does not come in contact with the film with so much force, and it takes less water to wash the negative. The advantage of the nozzles is, that it keeps the water in four small streams, whereas, if you only punch four holes in the cap, the water will join below and form one stream.

C. N. STEVENS.

Tin is bad to use. We think a better way to break the force of the water is to tie a thick rag loosely over the mouth of the faucet.—ED. P. P.

In looking over *Mosaics* for 1870, I notice formulas and hints for pyrogallie intensifier. I have used the following for two years with good success. The principal point of difference from other formulas I have seen, is in placing the citric acid in solution with the pyrogallie, as follows:

No. 1.

Pyrogallie Acid,	.	.	12 grains.
Citric Acid,	.	.	20 grains.
Water,	.	.	1 ounce.

No. 2.

No. 1,	.	.	1 part.
Water,	.	.	2 parts.

No. 3.

Nitrate of Silver,	.	.	15 grains.
Water,	.	.	1 ounce.

I use it before fixing, when there is want of detail in the deep shadows, otherwise after fixing if necessary, and I can then localize its action to a considerable extent if desirable. I pour a little of No. 2 into a small wide-mouthed bottle, and drop in a few drops of No. 3, and pour it on and off the negative, letting it fall near such portions as I desire to strengthen most. A little practice will render the operation safe and pleasing. Should violent discoloration of the negative occur, flush with a weak solution of bichloride of mercury. The pyrogallie solution will keep any length of time.

F. M. SPENCER.

I WRITE to give the craft my plan of keeping the bath in order. I keep two working baths, also a stock bath, 60 grains to the ounce, iodized 3 grains to the ounce of silver. My bath is failing. On taking a plate from it, the plate has a thick heavy dull appearance (too much iodide). I try it with litmus paper. If very acid, I add a solution of bicarbonate of soda, just enough to neutralize, I then add 2 or 3 ounces of water, boil it down to its original quantity, let it cool, then filter. Then add of the stock bath to make it 80 grains for ferro-types or 50 grains for negatives, sun one or two days, filter, and your bath is ready for work. I keep my ferrotype bath slightly acid; negative neutral. I sometimes throw my two working baths in one, treat it as just described, then make a new working bath. By this means I always have two working baths on hand. I have set foggy baths aside for a month or two, which, after being filtered, were clear and sharp. A new bath works better if kept in the light for a month, then filtered. I never let my bath remain in the box over night; I wash my bath-box at night, then it is dry by morning. I filter my bath every morning. Improper management of the bath be assured is the cause of more failures than any other.

J. DAVIDSON.

I FIND the following a good receipt for negative varnish:

Alcohol,	28 ounces.
Gum Sandarac,	4 "
Oil of Lavender,	3 "
Chloroform,	6 drachms.

Shake until dissolved, then filter and set by until it clears up, then pour off all but sediment. Warm the negative slightly before and after varnishing.

Most photographers use the lead pencil for retouching; I prefer India-ink and proceed as follows: Touch out pinholes (if any) on the varnished side of the negative, and then where the shades are too strong, *stipple* with India-ink the reverse side of the negative, which stippling must be close (but not so close as to touch each other); the negative must then be printed in diffused light, or if in sunlight, double tissue-paper or ground-glass must be used, which process

modifies the heavy shades and makes a great improvement in the picture.

E. A. BONINE.

NOTICING an article in a late number of the *Philadelphia Photographer* on green glass for the dark-room, I thought the following might give some *green* light on the subject. Mr. Jas. L. Forbes (at Gurney's) has yellow glass in his windows. The room is as light as day. Immediately over his developing tray is a gaslight, and the flame is surrounded by a very *dark-green glass globe*, causing the light in the room to look very green. He states it is a hard light to develop by; but the negatives (which average 110 per day),—so Mr. Ben. Gurney said,—are acknowledged by all to be unsurpassed. In fact, Forbes is the best negative-maker we have in the city, and anything he uses to produce such results should be known to all who wish to produce the best work.

J. H. HALLENBECK.

THE following process is not given as anything new to the old-time workers, but I thought it might prove beneficial to a large number who are not acquainted with this mode of printing. It is very superior for printing on *wood*, and for solar work in cloudy weather.

Float the plain paper on the following solution for three minutes: Water, 80 ounces; 4 ounces of a saturated solution of bichloride of mercury. Then hang it up to dry. When wanted for use, sensitize in a 35-grain solution of nitrate of silver for two minutes (the paper is now very sensitive, and should be kept in the dark).

The time required for printing will be found to vary from two to fifteen seconds.

DEVELOPER.

Water,	80 ounces.
P. S. Iron,	3 "
Glacial A. Acid,	6 "

Then wash well, and fix in hypo sulph. soda.

J. H. HALLENBECK.

To recover a plate from the bath, when by accident it gets off the dipper, take a clean straight stick of hickory, a few inches longer than the depth of the bath, cut a V-shaped notch in one end, split it up a few inches from the centre of the notch, spring

a small rubber band round the stick an inch from the end. The notch being set over the upper edge of the plate, a light push downward will force it into the split, and the elasticity of the rubber will hold it there. The bath need not thus be disturbed any more than by passing the dipper up and down. The film need not be destroyed more than half an inch from the edge, and much vexation and valuable time and patience be saved. This dodge may possibly be *old* to some of your readers. It is original here within the last few days, and I give it as a free offering to such of the craft as are not already too smart to learn anything new.

J. LEE KNIGHT.

TOPEKA, KANSAS.

[The same suggestion as the above has been sent us by Mr. Forester Clark, Belvidere, Ill., and is, we know, very good. We won't quarrel over its novelty.]—Ed. P. P.

I FIND, in my visits to photographers, quite a number who are troubled to obtain the tone they desire to their photographs; their bath does not work satisfactorily, and they are constantly making new toning baths. Now I have not failed in two years to tone just as I pleased, and I have not made a single bath within that time. Two years ago I made a very simple bath of soft water, with the addition of bicarbonate of soda and a little salt; kept when not in use bottled. In toning I pour out the quantity

I desire, add the gold, tone my pictures, leaving them warmer in tone than I desire to have them, for they dry darker, and fix in hyposulphate and bicarbonate of soda. After toning I pour my bath back into the bottle. In this way no gold is lost whatever, and I believe a bath may be used an indefinite length of time, occasionally adding to it soda and salt. I warmly recommend the above to those who are troubled in toning.

E. F. LUMMIS.

I GET over the disposition of the colors to crackle on magic-lantern slides by albumenizing the picture before drying, and this improves the film to color on; it is a point gained, as the colors take better and the film is secured. In fact, I found this easier to color on than any before. In using some water colors, such as gamboge, they will run off in varnishing; a little gum used with the color will prevent it.

T. P. VARLEY.

I HAVE been trying permanganate of potash for strengthening negatives, and find it does better than anything I have used. It is better to use it in two different solutions; make one very strong and the other weak. Use the strong solution for weak negatives and the weak solution for negatives that require only very little strengthening. Do not pour the solution back into the bottle, but wash it off over the sink.

T. C. LAWRENCE.

Editor's Table.

PRESS of matter this month again compels us to run eight pages over. The quantity of *good* matter coming to our hands is so great that we cannot keep it from our readers.

A CALL TO THE WEST. — We have before called upon the photographers of the West to assist Mr. Ryder in the labors attending the Exhibition. We hope that those who can, will go a few days before the 7th, as there will be need of their good services in hanging the pictures and arranging the hall.

THE German Correspondence is omitted this month on account of Dr. Vogel's visit to America. He is, at this writing, on his way to us, having left Hamburg May 11th.

SEVERE HAIL-STORM IN PHILADELPHIA. — At about two P.M. Sunday, May 8th, this city was visited by a most terrible hail-storm of fifteen minutes' duration, which destroyed every photographic glass-house completely. Scarcely a glass was left unbroken in any of them, and, after the hail a drenching shower occurred, which caused a great deal of damage. The

sight was perfectly terrific. Some of the stones picked up a few moments after the shower measured seven inches in diameter, and were very clear and hard. Four of them were photographed, which weighed in the aggregate 1870 grains—a curious amount, considering the year.

Mr. William Bell has sent us a stereoscopic view of the interior of his skylight, made twenty minutes after the storm, which presents his room in most deplorable condition. All the available vessels are scattered over the floor, into which the assistants are shovelling the bushels of great hail; the empty sash above and at the side, the drenched and torn curtains, etc., all look very much the worse for hail.

Very few pictures were made in Philadelphia for several days after, but now the damage is all repaired, and, better still, several of the old lights have been remodelled, so photography will gain after all. We hope, however, no more such storms will pay special attention to Philadelphia.

HOLYOAKE CARDS, CABINET-SIZE. — MESSRS. A. M. COLLINS, SON & CO., who are always enterprising in such matters, and ever ready to supply the demands of the trade in their line, have met the request of "Livingstone" in our last issue, and have ready the cabinet size Holyoake card-mount. A very pretty inner ring surrounds the portrait, between the latter and the outside tint, which is a great improvement, and makes them very effective and pretty. The dealers all have them.

STRUCK BY LIGHTNING.—Mr. C. M. Van Orsdel's gallery, at Wilmington, N. C., was struck by lightning May 5th, and afterwards deluged with water, doing much damage to his stock and negatives.

Mr. E. V. SEUTTER, Jackson, Miss., has sent us a copy of an article contributed by him to their local paper, complaining of the grievous taxes made upon photography. In addition to the Government tax it seems that the State and county also tax the photographers. This is hardly fair.

(P)SHAW! — A very singular thing has occurred recently. As soon as we received from Mr. Thompson the Shaw & Wilcox premature and threatening circulars, we put them in type, and, with the announcement of the victory, sent out about five hundred of them to those where we supposed Shaw would be most likely to operate, asking for help to pay the expenses of the suit for Mr. Lovejoy. We thought if *one-half* of those who were appealed to would

respond, there would be an abundance. And now comes the *singular* part: as if by some agreement, *nearly the whole of those appealed to*, have concluded to belong to the half who would *not* respond, hence, very little has been received. This seems really unfair, after the work has been done, and we really hope that our readers will be more thoughtful in the matter. The work is *done*; you are greatly benefited, and a *trifle* from each one would be enough. If *all* our readers would respond, fifty cents each would cover all expenses.

It is stated that neither Mr. Shaw's application for his original patent or for his several reissues, ever came up before the photographic examiner at the Patent Office, but, by aid of ingenious counsel, were examined in the *chemical* department.

Shaw was beaten in another patent case recently also. This time *he* was the *defendant* in the matter, and was declared an infringer on some other patent he had been using without a right.* Mr. Bell was the counsel against him in this case also, and also triumphant against him.

MR. A. SEMMINDINGER, New York, has sent us a communication wherein he says he was the first to patent a multiplying box, and that, up to January, 1860, there was no such box in existence, therefore all who manufacture them infringe his patent. Moreover, he states that he challenged Mr. Ormsbee in March, 1869, to disprove the above fact if he could, and that Mr. Ormsbee never answered him. If all that was known about the multiplying-box was published, it would make a very curious volume. Suppose you had a patent for a lock. Your neighbor sees defects in it, and, by the introduction of a new tumbler or spring or two, makes it less liable to be picked. He obtains a patent for his new combination, but that does not entitle either he or you to claim that *all* locks are "equivalents" and, therefore, "infringements." Yet such an erroneous opinion or claim is held by very many inventors. Mr. Semmindinger and Messrs. Wing & Co. may both patent a multiplying-box, and yet neither of them be entitled to the claim that every such box infringes them that was used before their patent. The Patent Office will not allow a man any such claims, though it is a common error to suppose that it does.

We know Mr. Semmindinger to be a hard-working man, and he says he has made camera boxes for twenty-one years. He states a curious fact too, that, of the several who have been in the business in New York, all have failed to succeed but him, up to *within a few years*.

☞ THE "Committee on the Relief Fund," National Photographic Association, U. S. A., are requested to meet at the Kennard House, Cleveland, Ohio, on Monday, June 6th, at 12 m.

W. IRVING ADAMS.

A SUBSCRIBER in Iowa desires us again to caution our readers against an individual calling himself "Dr. Phillips," who is selling pretentious processes for large sums which are nothing new. If he victimizes any of our subscribers, all we have to say is, they *deserve* it, for they have been taught better.

MEETING OF PHILADELPHIA PHOTOGRAPHERS. An enthusiastic meeting of photographers of this city was held at Messrs. Wilson, Hood & Co's store, on Thursday evening, May 19th, to consider, first, the best route to go to Cleveland; second, to arrange to send all parcels for the Exhibition together; third, to arrange for the reception of Dr. Vogel.

It was thought that, going by the way of the Erie Road and returning by way of the Pennsylvania Central, would be the most pleasant, and allow parties to see both routes. It was also agreed to have all the parcels shipped together. A committee was appointed to receive and entertain Dr. Vogel during his visit here. About twenty-five or thirty will go from this city to Cleveland. The subject of a State photographic society was also discussed, and a committee appointed to arrange for such an organization. It promises good success.

RECEIVED.—From Messrs. E. Long & Co., our agents in Quincy, Ill., a very beautiful cabinet of a lady from the gallery of Mrs. W. A. Reed.

From Mr. A. F. Clough, Warren, N. H., some very fine stereo views, made during his sojourn on the top of Moose Hillock, an account of which he begins in our current number. Some of the frost views are truly exquisite, and very curious as specimens of photography under cold circumstances. They are also excellent.

From Mr. C. R. Savage, Great Salt Lake City, we have a number of fine views in Southern Utah. The rock scenery there is most charming, and photography is just beginning to reveal it.

From Messrs. Bushby & Hart, Lynn, Mass., a number of Kembrandt cartes, very fine in their effect and extremely clean and rich in manipulation. They say they are continually busy, and their work eminently deserves it.

From Mr. J. Lee Knight, Topeka, Kansas, a 11 x 14 view of the new Topeka bridge.

MR. J. INGLIS, Montreal, has favored us with several copies of his great picture of the Skating

Rink. Hundreds of figures, in every imaginable dress and position, are grouped most wonderfully and artistically. It is a fine success as a composition picture.

THE SPHYNX.—This is the title we shall give to a new column beginning with our next issue. In Professor Pepper's excellent work, page 30, are given directions for producing the delusion familiar to all our readers in the cities visited by the magicians, called the "*Sphynx*," or the "Floating Head." A large mirror is placed on the stage at an angle of twenty degrees. The ceiling above is reflected in it. In the centre of the glass is a hole through which a human head is passed, the glass hiding the body. The appearance then seems to be that of a head floating in the air. Questions are then asked, and the head answers them. Now here is the point: our readers shall be the magician and ask the questions; our drawer shall be the hole, our Journal the mirror, and our new column the head or Sphynx to answer the questions, *which answers must also come from our readers*. We will start the questions with the following, put your heads through, and let the answers be prompt and full:

I. In diluting the disordered bath, pour the bath into the water, and not the reverse. *Why?*

II. Ammonia, dropped drop by drop in a solution of nitrate of silver, forms a precipitate which dissolves after the addition of more ammonia. *Why?*

III. Why does boiling the bath cause it to throw down its impurities?

ANSWERS TO CORRESPONDENTS.

D. COZIER.—The white spots on your ferro-types are caused by an excess of acid in your bath, creating lack of harmony with your collodion. The "appearance of sand" on the plates is iodide of silver. Coat your plates with the film down, inclined on the dipper. The following is good for ferrotypes:

COLLODION.

Iodide of Ammonium,	. 4½ grains.
Bromide of Potassium,	. 2 "
Ether and Alcohol,	. equal parts.
Cotton,	. 4 to 5 grains.

DEVELOPER.

Water,	. 32 ounces.
Protosulphate of Iron,	. 2 "
Alcohol,	. 2 "

J. A. W. PITMAN.—Dissolve lampblack in good cider vinegar, adding a little glue-water. Reduce to proper consistency with soft water. This will be found good, either for blacking the inside of the lens-tube or the apparatus.

T H E

Philadelphia Photographer.

Vol. VII.

JULY, 1870.

No. 79.

Entered, according to Act of Congress, in the year 1870,
By BENJAMIN & WILSON,

In the Clerk's office of the District Court of the United States for the Eastern District of Pennsylvania.

THE EXHIBITION

AND

Meetings of the National Photographic Association.

WE have devoted the major portion of our space this month to the proceedings of the National Photographic Association at Cleveland, because we look upon it as a subject of vast importance and value to every photographer in the Union. Whether every one will see the advantages of a connection with such a body, or not, the advantages are still the same.

The Cleveland affair was enough to convince any one that the little handful of men who met in Philadelphia in December, 1868, and organized the Association, started there a train which is catching like wildfire, gathering hundreds to its strong embrace, forming a union which is going to be a great power and work wondrous good in the art. A brighter, better day for its votaries, when they shall consider it an honor to be a photographer, is near at hand.

Instead of the handful of faithful ones alluded to, *over five hundred photographers visited Cleveland during the week of "jubilee,"* and nearly two hundred new members were admitted to the Association, which is to make them proud of their connection with it. About two hundred and fifty persons were exhibitors, and thousands of citizens visited the Exhibition, as many as two thousand

being present at one time. The receipts at the door were more than enough to pay all the expenses of the Exhibition, which was not the case last year. The debts incurred in litigation with the Shaw & Wilcox Co. by one of the members, and in opposing the plea of the Bromide Patent assignees before Congress for a rehearing of their case, were wiped away by the Association. Elegant medals, it will also not be forgotten, were offered for improvements in the art during the year.

A Relief Fund was established and placed in the hands of a board of trustees, who are energetic and earnest in the matter and mean work, and to it the handsome donations mentioned in the record of the proceedings have been made, so, with all this and its new strength, the Association is in a flourishing and prosperous condition. This is not the result of excitement either. The men who are alive in the matter are actuated by broad principles, intended to benefit the profession at large, and they will carry them out. Every live photographer must sooner or later join them for his own protection and benefit, and then you may look for the time when you shall dictate your terms to your customers, and not they *their* terms to you. Read carefully the proceedings and think over them, and hereafter we will talk further on this matter of membership together.

Harmony prevailed throughout the meetings, and they were pleasant in every way and doubtless profitable, judging from the crowded rooms and the number who had to stand.

THE EXHIBITION.

The Exhibition was, in every sense, a triumphant success. Mr. J. F. Ryder, the most efficient Local Secretary, will never be forgotten by those who were there. He drove the best of bargains for everything for the benefit of the Association; he was careful alike over the interests of all concerned, and to him the success of the affair was due. Too much cannot be said in his praise, as many will testify.

Through the kindness of Mr. T. T. Sweeney, we have three negatives of the interior, which are being printed for our next number by Mr. Rhoads, therefore we will defer a detailed description of the Exhibition until it appears, and with it will also be published a full list of the exhibitors. That great skating rink was overflowing with chemicals, apparatus, accessories, photographs, etc., by almost every known process, and in endless variety. The number of exhibitors was about two hundred and fifty. The Committee of Arrangements was Messrs. Albert Moore, chairman; W. Irving Adams, V. M. Wilcox, John R. Clemons, and Edward L. Wilson.

The greater bulk of the pictures were portraits, the "Rembrandt," "Shadow," Cabinet, Salomon, and "retouched negative" styles, all being in vogue. Wonderful specimens were exhibited, showing great growth and improvement in American photography during the past year. The limited amount of colored work we could hardly understand, and landscape photography was also but poorly represented. In these directions and with composition or *genre* pictures we must work during the coming year, so as to show all the variety that photography is capable of attaining.

Two great features of the Exhibition were, in the evening the exhibition of Mr. Black's dissolving views with the electric light, and of the Woodbury photo-relief printing process by Mr. Carbutt each day. Mr. Black exhibited a slide of the group

of the members present, in his lantern, a few hours after the negative was made.

All this grand Exhibition, with a fine band of music playing and crowds of people examining the pictures, made up a scene which is indescribable, and which swelled the hearts of the earnest photographers with pride and gratitude. Cleveland shall never be forgotten. May the coming annual jubilee at Philadelphia be as enchanting and as successful. No pains shall be spared by her photographers to make it so, be assured.

We almost forgot to say that the negatives of the interior and of members, made by Messrs. Sweeney and Johnson, were given to the Board of Trustees of the Relief Fund, and prints are now for sale, the profit to go to the Relief Fund. See advertised list and purchase them liberally. A group of the members each year will be very interesting to have and watch the growth in numbers.

PROCEEDINGS

OF THE

National Photographic Association of the United States.

THE Second Annual Meeting and Exhibition of the National Photographic Association of the United States was held in the Central Rink at Cleveland, Ohio, June 7th to 11th inclusive, 1870.

The President, Mr. Abram Bogardus, of New York, in calling the Convention to order at 3 P.M. made the following remarks:

"One year ago the National Photographic Association of the United States adjourned from the city of Boston to meet in the city of Cleveland on the 7th of June, and I may say that I can call this a *jubilee*. (Applause.) I now congratulate those who are here with us upon the success of our organization. If we have done well in the past, it argues that we are going to do better in the future, and I will only say now that I take great pleasure in calling the Association to order." (Applause.)

Mr. J. F. Ryder, of Cleveland, the Local Secretary, then spoke as follows:

"MR. PRESIDENT AND GENTLEMEN: I take my share of pride as a Cleveland, and

that our city is honored by this meeting. I am proud to see so many in attendance here, most of whom have come hundreds and some thousands of miles. I am proud, too, of our magnificent show of photographs. So large and fine a collection has never before been brought together in this or any other country.

"The Bromide Patent extension man, with visions of a yearly revenue of a million or more, did not start out with a view of calling into existence a powerful association with powerful prejudices against unjust patents. But now we are the offspring of his greed. He *administered well* for us, and we owe him much. For the good of our young but rapidly-growing art, nothing can be of more value to us than unity, that we may all pull together in the direction of improvement.

"That you come to Cleveland to compare your strength with that of a year ago, that you give us the second annual meeting and exhibition, is a compliment to our city that will undoubtedly be appreciated. As a citizen, and in behalf of the photographers of Cleveland, I bid you welcome."

President Bogardus then replied :

"MY BROTHER: I am happy to be the mouth of the Association in replying to your cordial welcome. Among my earliest recollections of Ohio was the log-cabin with its latch-string hanging out as a welcome, but now I find the busy streets and palatial residences have taken the place of the log-cabin, yet the welcome is just as hearty. Personally, I can say I have not shaken hands with a man since I came here, who has not given me a hearty shake as if it came from his heart. You know what Mr. Gough says, to wit, that 'some men shake hands so softly and coldly that you look down to see whether you are shaking a man's hand or a dead fish.' We come here from the North, South, East, and West, all as a common brotherhood, and by our presence and our efforts hope to lift our art higher and higher till it attains the proud eminence it deserves. This gathering is going to give a stimulus to every man here. I defy any one to look on the work exhibited and not wish to equal or excel it. Will a man ride in the old stage-coach when the locomotive

of progress is passing along? Excuse me if I make a remark personal to Mr. Ryder. When we first met in Philadelphia, with a view to forming this Association, there were but few of us, and differences of opinion existed as to whether the photographers would sustain the Association.

"Mr. Ryder arose and said that he 'could not say much but he *meant* a good deal.' He advocated its formation and predicted its success, and let this gathering and exhibition say whether his predictions have been fulfilled. We called the Boston gathering a success. What shall we call this but a *jubilee*?

"You speak (turning to Mr. Ryder) of the Bromide Patent man as being the cause of our Association. He at least deserves credit for his bulldog pertinacity, for it will surprise many of you to hear that the Bromide Patent is only just dead. Any party being refused an extension of his patent can go before the Senate and ask for another hearing before the Commissioner of Patents. The bromide man has done so, and accused Mr. Wilson and myself of using money and political influence to prevent his getting an extension. He has had a hearing before the commissioners of the Senate and they have refused him another hearing. As I once said in Philadelphia, when I was a boy we used to kill a snake, and his tail would live and squirm until sundown. So did the Bromide Patent. I think the report of the Senate committee put an effectual stop to his wriggling. The cat is said to have nine lives, but I believe Mr. Wilson will think bromide patents have ninety times nine.

"Wherever this Association shall hold its next annual meeting, I can only ask that the photographers of Cleveland and the West shall have a welcome as hearty and a greeting as cordial as the one we have received in this city." (Applause.)

The minutes of the last meeting were read by the Secretary, Mr. E. L. Wilson, accepted and approved.

The roll was then called by the Secretary, and, upon the suggestion of Mr. Bogardus, each member arose in his seat as his name was called. One hundred and fourteen old members responded to the call.

Mr. Bogardus stated that many of the members who had not answered to their names upon the calling of the roll were on their way here, telegrams having been received from several that they were coming, so that there would be a great many more in attendance before the convention closed. (Over five hundred attended during the sessions of the Association.)

A telegram having been received from the Treasurer, Mr. Anthony, of New York, that he would be here this evening, upon motion the reading of the Treasurer's report was deferred until to-morrow.

Mr. William H. Rhoads, of Philadelphia, upon motion of Mr. E. L. Wilson, was chosen as Assistant Secretary.

The reports of the Executive Committee, the Committee on Congress, and the Committee on Relief Fund, were laid over until Wednesday, A.M.

The Committee on the Progress of Photography presented a very brief report, which was read by the Secretary and accepted.

Mr. Carbutt, of Chicago: "I ask to be excused as one of that committee, upon the ground that the letter in which I was notified of my appointment as a member of the committee was laid by in my absence, and did not come into my hands until several weeks afterwards, and too late for me to take any action in the matter. I was a few weeks abroad last fall in Europe, and, of course, during that time I made note of the various things I saw. The most essential thing that took my notice, was the progress made in the historic character of the art, and the progress in pictures of an indelible character. The one that took the lead in Paris at that time was the enamelled photograph, and I think it is likely to become one of the most popular styles. Mr. Scholten has some highly creditable specimens here, and I think finer than anything I saw abroad. That and the retouching of negatives seems to have arrived at a very fine point in Europe, especially in Paris. In London nothing much had been done with it. Still, vast strides have been made by the photographers on the Continent. They, too, are adopting the retouching of negatives. That is being rapidly adopted by most of the lead-

ing galleries throughout this country. (Applause.) I regret that no fuller report has been made by the committee, but such are the few observations I made during my absence."

Mr. W. Irving Adams, of New York, offered the following resolution, which was adopted:

Resolved, That the annual election of officers of the National Photographic Association for the ensuing year, be made the special order of business for Thursday next, at 10 A.M.

Mr. E. L. Wilson moved that a committee of five, to prepare and receive nominations for officers, be selected and appointed by the Chairman; the committee to report Thursday, at 10 A.M. The motion was carried, and the Chair appointed as such committee, Messrs. Carbutt, Bowman, Baker, Rhoads, and Wilson.

Mr. Tresize moved that a committee of three be appointed to prepare business for the Convention, through whom all resolutions shall be brought and properly presented.

Mr. Bogardus said that the Executive Committee would have that matter in charge, and would this evening arrange for the future sessions.

Mr. Tresize withdrew his motion.

The President announced that at 3 P.M. to-morrow he would deliver his annual address, and would be followed in an address by Dr. Hermon Vogel, of Berlin, Prussia.

Mr. E. L. Wilson moved, that during the absence of the Treasurer *two* assistant treasurers be appointed, and the motion being carried, Messrs. Michael F. Magee and V. M. Wilcox were appointed.

Mr. Bogardus stated that the books of the National Photographic Association would now be thrown open, and a recess taken so that the names of new members might be received, and those who had not paid their annual dues might now do so.

A gentleman asked if it was sufficient, where there was a firm, for one partner to sign the firm name and pay the fees of an individual?

Mr. E. L. Wilson said that the Executive Committee had always ruled that only one member of a firm could be a member of

the Association by paying single dues and a single fee; two persons could not come into the Association as one member any more than they could stop at a hotel for a single fare.

Adjourned to 10 P.M. Wednesday.

SECOND SESSION.

Wednesday, June 8th, 10 A.M.

The Association was called to order by the President, Mr. Bogardus.

On motion, the reading of the minutes of yesterday was dispensed with.

Mr. Henry Anthony, of New York, then made his report as Treasurer of the Association. Balance in the treasury, \$572.38.

It was moved and seconded that the report be accepted and referred to the Auditing Committee. Carried.

Mr. Bogardus then read the following telegram from Mr. P. B. Jones, of Davenport, Iowa:

"TO THE NATIONAL PHOTOGRAPHIC CONVENTION:

"I send you greeting from the Mississippi Valley, and regret that I cannot be with you, on account of sickness in my family.

"P. B. JONES."

The following letter to the Secretary, from Mr. Thos. H. Johnson, was then read:

"CLEVELAND, June 8th, 1870.

"Will you oblige me by extending an invitation to the Association to assemble at some suitable place for the purpose of having a group picture taken.

"I would suggest forming in front of the monument in our public square, between the hours of 2 and 4 P.M., to-day or to-morrow (weather permitting), if convenient to the Association."

Mr. Bogardus stated that Mr. Thos. T. Sweeny, of Cleveland, had also extended an invitation to the Association to meet for the purpose of having a group taken.

Mr. Wilson moved that both of the invitations be accepted, and that the time be fixed upon before the adjournment this morning.

Mr. Webster moved, as an amendment, that a committee be appointed by the Chair to fix upon a convenient time. Carried.

The Chair appointed as such committee, Messrs. Webster and Fitzgibbon.

Mr. Wilson offered the following resolution:

"Resolved, That members, upon rising to address the Association, shall state their name and address before speaking."

Mr. Wilson said that he offered this resolution for the purpose of enabling the stenographers to make an accurate report of the proceedings. Passed.

The Report of the Committee on the Relief Fund was then read.

The chairman of the committee, Mr. W. Irving Adams, of New York, previous to reading it, said:

I feel somewhat enthusiastic in this matter. I have based this plan upon the relief systems of some of the most prominent New York organizations. I feel that if this is adopted, as it should be, that by the time the committee or the Trustees are called upon to pay any money, the fund will be so large that the interest will be almost sufficient to cover all demands upon the fund. I would suggest that in the first blank be inserted, say five per cent. of the entire receipts to go to the Board of Trustees; the next blank, I would suggest, be filled by inserting that the widow, so long as she remains a widow, shall receive, say fifty dollars per annum; and for children under ten years of age, about ten dollars a year. In regard to any superannuated member, of course that cannot take effect for several years, and by that time I am satisfied that a fund will be created sufficient to allow them from three to five hundred dollars per year. I would suggest that those blanks be filled in by the Association, and the report adopted, as follows:

NEW YORK, June 7th, 1870.

TO THE OFFICERS AND MEMBERS OF THE NATIONAL PHOTOGRAPHIC ASSOCIATION.

GENTLEMEN: The undersigned, in behalf of the committee appointed at the last annual meeting, to consider the propriety of establishing a "Relief Fund," would respectfully report that after a considerable correspondence with members of the committee, they have adopted the

accompanying plan, and respectfully submit the same for your consideration.

W. IRVING ADAMS, *Chairman*,
4 Beekman St., N. Y.
J. C. POTTER, Elyria, Ohio.
G. S. BRYANT, Boston.

The President of the National Photographic Association, elected at the Annual Meeting, June, 1870, shall, within twenty-four (24) hours after his election, appoint or nominate, and report to this Association for their approval, the names of six (6) gentlemen (who shall be members in good standing) who shall be styled *The Board of Trustees of the Photographic Benevolent Fund of the U. S. A.*

The said Board of Trustees shall be divided into three classes, said classes to be determined by lot under the supervision of the President, Secretary, and Treasurer of this Association.

The first class shall hold their office one year; the second class, two years; the third class, three years from the date of their appointment.

The annual election of two Trustees shall be held at the same time and place as the annual election of the officers of this Association.

The President, Secretary, and Treasurer of the National Photographic Association shall be ex officio members of the Board of Trustees named above.

The said Trustees shall have power to make By-Laws for their own government, and shall annually appoint a President, Secretary, and Treasurer. They shall have the entire control of all moneys belonging to the Benevolent Fund, and disburse in a manner hereinafter named.

The Treasurer of the National Photographic Association shall pay annually to the Treasurer of the Board of Trustees, five per cent. of the entire receipts of the preceding year, and all moneys now in the hands of this Association, standing to the credit of the Benevolent Fund, shall be paid over to the Treasurer of the Board of Trustees, and he to invest all such moneys under the direction of the Board of Trustees, so as to be drawing interest.

The Treasurer of the Board of Trustees shall give bonds for the faithful performance of his duties in such an amount and at such times as the officers of the Association shall determine.

If a vacancy shall occur, by death, resignation, or otherwise, in the Board of Trustees, it shall be filled by that body. If more than one vacancy shall occur at the same time, such vacancies shall be filled in the same manner as provided in the first section of these articles.

When the National Photographic Association shall have existed five years, the Trustees shall

have power to commence making appropriations to beneficiaries in the following manner:

The nearest of kin having had the care of any deceased associate who shall not, at the time of his death, be in arrears for more than one year, and who shall have been a member at least five years, shall be entitled to the sum of \$50, as funeral expenses, and if the circumstances of the case require it, in the estimation of the Trustees, his widow (so long as she remains his widow) shall be entitled to receive \$50 per annum, and for every child under ten years of age, the sum of \$10 per annum. Any superannuated member of this Association who shall have been a member twenty-five years, and who shall have served in any capacity, or connected in any way with photography for twenty-five years, shall (if in the judgment of the Trustees he require it) be entitled to the sum of \$100 per annum.

Should any member of this Association, in good standing, become disabled by accident or otherwise, so as to prevent his attending at his business, he shall be entitled to receive such an amount as the Trustees may deem proper in the case, and the funds will admit of.

The Trustees are authorized to solicit from photographers and stockdealers, donations to this fund.

Mr. Wilson moved that the report be accepted, and the consideration of it laid over until to-morrow. Carried.

The following letter from Samuel Holmes, Esq., was then read by Mr. Wilson:

NEW YORK, June 3d, 1870.

MR. E. L. WILSON,

Secretary Nat. Phot. Assoc. U. S. A.

DEAR SIR: I very much regret that circumstances beyond my control will prevent my being at the approaching meeting at Cleveland, as I had hoped until within a few days. This meeting, in my judgment, should have quite a practical character, both in its efforts for future association and continuance of the Society, and for the improvement of the art in all its various branches. As I shall not be able to speak personally to the Convention, I beg the privilege of saying to you by letter some things that have come before my mind, as measures desirable to be attained by it.

First of all, it seems to me that as the Association has now, as we trust, a recognized and firm basis, its privileges and associative advantages should be so extended as to bring in all those practising and associated with Photography in its various relations throughout our country generally; and in using the word "coun-

try," I would do it as meaning in the larger and broader sense of our "Continent," rather than of the present "United States."

To this end, every possible thing should be done to elevate the art, to increase the power and usefulness of the Association, and to make it not only a thing worthy the attention and assistance of every one of the fraternity, but association with it a felt necessity to them. This cannot be accomplished by mere resolutions, but can be by continued and active co-operation. The encouragement we have already seen, resulting from the labors of a few earnest men, is sufficient guarantee for even the most timid and credulous to unite their influence, their time, and their money with those who have so nobly borne the burden and heat of the day, in still further and increasing fields of effort. Truly, those who have held back during the sowing of the seed cannot withhold their hands in the reaping season, with the promise of such an abundant harvest.

Second, in matters which crowd upon my mind as desirable to take up are, measures which shall more fully strengthen the art as at present understood, and whatever may tend to develop it, whether in its modes of working, formulas, apparatus, or materials used. In this direction there is great room, doubtless, for increased effort and inventive genius; and there is also a continued call for the Association's so examining into all claims that the mere charlatans with their pretended improvements, who make their living by imposing upon the more credulous, shall be thoroughly discountenanced. Thousands and tens of thousands of dollars may be annually saved for the profession, by vigorous action on the part of the Society in this respect.

With the view of stimulating improvement and invention in whatever relates to the art, I propose to offer, in behalf of the Scovill Manufacturing Company, a gold medal, of the value of one hundred dollars, of appropriate design and workmanship, to that person, resident of the American Continent, who shall have been adjudged by a committee of competent and scientific photographers, to be appointed by the Society, to have made the greatest improvement of whatever nature applicable to the production of sun pictures. Said improvement or invention to be of acknowledged practical utility, and to be made during the year preceding the Convention of 1871, to follow in subsequent years. For that improvement which shall have been adjudged second in importance, I personally offer a silver medal of the value of twenty-five dollars, upon the same conditions as the first premium.

Mr. Adams showed me, before leaving, the draft of a plan for a Benevolent or Insurance Fund. I am not in favor of the pensioning system, or of any system of benefits generally which shall give to all a certain sum, whether rich or poor, needy or otherwise, under any and all circumstances. I think the principle is opposed to the free institutions of our country, and tends to destroy independence of thought and action and the responsibility of those who may thereby become recipients. But I think a well-organized and discriminating system of relief for special and worthy cases would be very useful and opportune, and there are occasional instances where very worthy people may be greatly assisted among the photographic community.

The matter, however, will doubtless be very fully discussed in Convention, and should any judicious plan be adopted, looking to the permanent benefit of the Society in that direction, I authorize you to pledge the Company which I represent for five hundred dollars towards its endowment, it being understood that, should the Society or the plan be abandoned, the donors may give direction to any unexpended balance in the interest of photography at their discretion.

Having thus given you, perhaps, too fully of my own views as they have come before me, I leave them with you to make use of as you may see fit.

More important plans may come before the Society, which should take precedence. If so, lay this communication under the table.

I trust your meeting will be of great pleasure, and tend much towards creating good-fellowship, and great advantages to the profession generally.

With my apology for thus intruding upon your time, and best wishes for the success of the Society, I am,

Yours, very truly,

SAMUEL HOLMES.

No. 4 Beekman Street.

The reading of Mr. Holmes's letter was received with immense applause, and on motion of Mr. Bardwell, of Detroit, the letter was accepted by the Association.

Mr. Wilson said: "It seems to me that a letter of that kind should have something more than a mere acceptance. I think the matter in relation to the medals should be referred to the Executive Committee, with power to appoint, with the assistance of the President, a Committee on Photographic Improvement and Progress, and on the Scovill and Holmes medals. Then I would suggest, in relation to the benevolent fund,

that that also be referred to the Executive Committee, and afterwards by them to a committee that may be appointed as Mr. Holmes proposes."

Mr. Bardwell moved that the letter be referred to a special committee, to take action on the different matters referred to in the letter of Mr. Holmes.

Mr. Bendann, of Baltimore, offered an amendment, that the letter be referred to the Executive Committee to take action upon it, and report at as early a day as possible.

Mr. Bardwell accepted Mr. Bendann's amendment, and the motion was carried.

Mr. Rulofson, of San Francisco, offered a communication in reference to the place where the next Annual Convention should be held.

Mr. Wilson moved that the communication be accepted, and the reading laid over until such time as the discussion should come up upon the subject of where the next Annual Meeting and Exhibition should be held. Carried.

Mr. Bogardus said: "During the prosecution of the Shaw & Wilcox patent, the counsel employed by Mr. Wilson—E. Y. Bell, Esq., of New York—worked for us very hard, accomplished what he worked for, and what we all desired him to accomplish. I am very happy to inform you that Mr. Bell is with us this morning, and will now address you."

Mr. Bell was then introduced to the Association by Mr. Bogardus, received with great applause, and spoke as follows:

MR. PRESIDENT AND GENTLEMEN OF THE NATIONAL PHOTOGRAPHIC ASSOCIATION: I am glad to see you. Aside from the personal relations that already exist between myself and so many of your body, I am happy to meet with you this morning on the common platform of professional brotherhood; and I can say, from the depths of my heart, *God speed you* in your noble efforts to enlarge the domain of your splendid art; to make it the more rich, the more imposing to the tastes and appreciation of those who are in future years to see your work and to speak of the marvellous beauty of that which you have so delicately and so handsomely wrought. (Applause.)

In coming here to Cleveland I had but two objects in view, the first, to see this body of gentlemen; the second, to have this body of

gentlemen see me. (Laughter and applause.) Before entering into the details of the case in which I have had the privilege of taking part, permit me, in your presence, to acknowledge the valuable services of your distinguished Secretary, Mr. E. L. Wilson, of Philadelphia. (Applause.) Let me here say, gentlemen, that during the trial which has lately so successfully ended, had it not been for the zeal and personal exertions of your honored Secretary, I seriously believe that the result would have been otherwise, and that to-day your Association would have been under an embargo which would have been hard even to attempt to raise much less to overcome. Therefore, in dividing the honors, I do so cheerfully. Mr. Wilson has been really the power behind the scenes at the latter end of this trial. In one of the back numbers of his Journal he told you that he had been arrested by the complainants in this case, the Shaw & Wilcox Co. He was arrested, gentlemen, upon a charge that grew out of an unselfish and devoted zeal to you as a body. He was arrested for publishing in his Journal, the *Philadelphia Photographer*, an article that told the world clearly and plainly that Shaw, the complainant in this suit, had no right to that to which he laid claim. It was for this cause that Mr. Wilson was incarcerated in New York, but I am glad to be able to say that I came to his relief, and that some two hours afterwards, through the intervention of Messrs. Holmes, Scovill and Adams of the Scovill Manufacturing Company, he was returned to his home in Philadelphia. This much for Mr. Wilson in the case.

Now as to the case itself. The Journal has given you some idea of the suit. It was an action commenced by the Shaw & Wilcox Co. against a photographer by the name of George W. Lovejoy. Mr. Lovejoy has only one arm and one eye, and I believe that so far as his worldly possessions go, he is a poor man. He was the victim of this Company, and doubtless they intended, either under a decree by default or by reason of the man's pecuniary weakness, to overcome him, and thus succeed in their extortions. The defendant, Mr. Lovejoy, fortunately for him, for you, and for myself, gentlemen, as it turns out, were brought into contact. He informed me what his situation and means were, and I told him that if I could only secure enough to cover the actual labor in preparing a bill in answer to his case, that I would enter upon the defence. Little did I think at that time how large an interest would be felt in the result; little did I think that I should be the mouth-piece of thousands instead of the mere represen-

tative of one man. But I entered upon the labor. That was in the month of July, 1869.

The way in which these cases are contested is this: the venire in this suit was laid in the United States Court; after the issue is joined, the case comes before an examiner, who takes the testimony of the various witnesses; everything is taken down in writing, and is then printed in book form; at the next regular term of the Court it is called, and from the printed book the case is argued. It was not until the month of March, 1870, that the testimony was fully closed in the case, and it was just at this time that I came into contact with your Secretary. We had almost closed our case and needed more evidence. I needed more witnesses and desired to understand more fully the chemical details of the case. You could not expect a lawyer, in the space of two or three months, to master the scientific details of a profession that takes a long life of study and observation to become perfect in. Therefore I needed instruction from some good expert in photography as well as in chemistry. That instruction came from Philadelphia, and I publicly acknowledge the fact before you to-day. To Mr. James F. Magee, the eminent manufacturer of photographic chemicals, who patiently instructed me in the practical details of chemical science applicable to the subject-matter of the Lovejoy suit, to Mr. George H. Fennemore, who gave us the freedom of his establishment in order to learn the practical workings of photography, I with pleasure openly and here give thanks, and acknowledge their services for you. Mr. Wilson asked me what was the condition of the case. I told him I had already incurred a debt of one hundred dollars, and I didn't feel like going on any farther with the case unless I saw the way clear. He then told me to "*go on*," and if the result was a good one, all things would be right.

Taking his word for it, I went on, and, gentlemen, you have the history of that result before you to-day. As the case stood at this time, it reminded me of a scene in another place, and perhaps you will see the application. Standing in front of the great Church of St. Peter's, at Rome, and looking up to its dome, you will see an obelisk thirty-two feet in height, occupying its position high over all. Three hundred years ago that obelisk was placed there. A sum equal to \$30,000 was offered to be paid to the man who should erect the statue in position upon that high place. A man stepped forward and said, "I will undertake the work," and from the Vatican had gone forth an edict, that whoever should speak until the work was achieved would

do it at the peril of his life. One hundred and fifty thousand Romans gathered to see the great statue raised to its place. The crowd stood breathless, and, as the machinery moved down below, and the statue slowly moved upward, all at once there was a halt. The machinery had given out—there was something wrong; the contractor was almost dumbfounded. He had attempted his work, and yet within fifteen degrees of perpendicular, he had met with an obstacle, and who was to remove it? That vast audience remembered what had been said in the Vatican, and not one dared speak. But, way back of that crowd stood an old sailor who had stormed the seas amid the tempests of many years, and he, in looking at the progress of the work, saw in an instant what would remove the difficulty. Said he to himself, "I know it may be death to speak, but if I die for it, I must say it," and he shouted, "Wet the ropes! Wet the ropes!" and one hundred and fifty thousand voices took up the cry, "Wet the ropes!" and the engineer applied the water to the ropes that had been stretched in consequence of the great weight, and at once they began to shrink, and the statue moved slowly but surely on its course, and soon, amid the plaudits of that vast assembly, it stood solid and secure upon its foundation. So it seems to me on a smaller, but just as true a scale, the Shaw & Wilcox case hung.

Mr. Lovejoy had attempted to lift the shaft of legal success and place it high above the threats of the Shaw & Wilcox Co., and just as he had got this shaft erected within fifteen degrees of perpendicular, there was something the matter with his machinery. He wanted help; he wanted pecuniary aid, and although it had been said by them, that if any man dared to say a word they would shut him up, your young sailor, Mr. Wilson, stood by and shouted, "*Wet the ropes! Wet the ropes!*" (Applause.) The ropes were wet, and what is the result? Why, that shaft to-day stands there a monument of success that should be engraven upon the tablet of every photographer's heart.

Gentlemen, you know what this case has done for you; you know what it has saved for you; you know the trouble and pecuniary burden which you have escaped, and upon this point I leave it with you. But one word regarding your organization. It is said that the good of all government lies in the purity of its organic life, and just in proportion as you have this purity of thought and action amongst you, and this strength of the right hand of fellowship running through your organization, so in proportion will be the success that will attend your present and

future labors. I tell you if this is the second year of your life, you are a terrible infant. (Great applause and laughter.) And it might well be asked, as I was the other day, "I wonder who the mother of this organization is?" The boy shadows forth what the man is to be; hence to-day you are a child of promise. Truly, you are an organization that has done much in two years of life, and if you have done so much in two years, what will you become during the next five or ten years? If your art has been brought up to such a high standard now, what will be its development in 1875? You need to be united. I saw, in the address of one of your officers here yesterday, that he counselled unity of action and unity of thought. All must heartily echo the sentiment. Unity in your efforts to help one another; unity in order to raise up and make larger and broader and more glorious your triumphs. The names of Wedgwood, Sir Humphry Davy, Talbot, Hunt, William Herschel, all add to the bright triumphs of the greatness and worth of your art. But who are to fill their places in the future? *There are men among you whose names may yet stand as high as theirs!*

One thing more before I close, and that is the press. You have the press on your side, and, I submit, when a body of gentlemen such as you are, has the influence of the press, your power is irresistible; and when that press is sound, when it is built upon a right principle, and has before it the right kind of action, you can sweep every obstacle in your path to success. (Applause.)

To this end you have occasion to be grateful and happy for the already united feeling that here exists, as well as for the influence of the press, that engine of good, that engine of power, which seems to be running your Association along on the high road to fame.

Mr. Bell concluded amid enthusiastic applause, and on motion of Mr. Knecht the thanks of the Association were unanimously given Mr. Bell, the members rising to a man as they voted.

Mr. Southworth, of Boston, moved that Mr. E. Y. Bell be made an honorary member of the Association. Carried unanimously.

The Report of the Executive Committee was then read by Mr. Wilson, as follows:

To the Officers and Members of the National Photographic Association, in session held in Cleveland, Ohio, June 7th, 1870.

GENTLEMEN: Your Executive Committee beg to congratulate you on the occasion of another

Annual Meeting, and to make the following report:

While but few matters have come before them during the past year, those that have been presented have been of the utmost importance to the profession, and have been acted upon by your committee with the utmost harmony and unanimity.

The renowned Bromide Patent (whose hissings and threatenings frightened a few of our profession into the conception of an organization, which is now, as you see, grown to be "a very bulky baby"), and which was fought and given its death-blow in 1868, has twice been resuscitated since then, and two appeals made to our National Congress for the reissue of the patent. In 1869, a formal petition was made to a Congressional Committee on Patents for the absolute extension of the patent for seven years. As constant watch was being kept over the enemy, this movement was discovered and opposed until the parties withdrew their suit, and again disgraced and defeated deserted the field, and your committee again breathed free.

On May 19th, 1870, in the Senate of the United States, a bill was presented for the rehearing of the petition for an extension of the patent. So great was the activity of the counsel in pressing their suit, that your committee were forced to employ counsel, and Henry Howson, Esq., one of our efficient counsel in the first war against the Bromide Patent, was engaged to enter our plea and to prosecute our rights with the committee aforesaid. With what success, you will learn by his report, which will be read at one of the sessions of this Association. On the result we heartily congratulate you, and think that the frightful creature is now really and truly *scotched and killed*.

The rights of the profession have also been prosecuted and established in another court. At our last Annual Meeting, the claims made by the Shaw & Wilcox Co. for their patent for saving wastes were denounced "as fraudulent, unjust, and unworthy of credit by the Association." Since then, an opportunity has been presented to prove the soundness of that resolution, in the matter of the suit of the Shaw & Wilcox Co. against G. W. Lovejoy; and by aid of our efficient counsel, E. Y. Bell, Esq., of New York, the aforesaid resolution has been established by the court, and we are freed from the presumptive claims of another bogus patent, and the claims of the Shaw & Wilcox Co. have been completely defeated and overthrown.

There is but one other patent now which promises to impose upon the profession by its unjust

and illegal claims. It has been once defeated, and now rests in the United States Supreme Court for a final decision. In our next report, we hope to report its final defeat, if justice should so determine it.

Your committee now broach a subject which has caused them considerable annoyance. Our Association being yet young and our funds low, the action of your committee has been somewhat retarded by want of funds. Knowing that all depends upon *prompt action* in such cases as those just named, they have been on the alert for your interests; but when funds are called for the responses have been but few, and several bills for counsel's fees remain unpaid. We are striving to *rid* you of every unjust annoyance, and you shall soon *be free*, if you will but help us *now*. Further statements in this matter are given further on. We hope that the Association will at once relieve us from this embarrassment. Few, if any more such calls will ever be made, and this fact should encourage a prompt response towards cancelling our debt *now*.

Our Association may now be deemed as an established success. The interests of the profession at large have been advanced. Over 150 new members have joined our ranks during the past year, and everything looks promising and well. A better feeling prevails; the tendency is not only decidedly towards better work, but the average work of the country *is*, each year, better and better, as our annual exhibitions witness.

STATEMENT.

We present herewith bill of H. Howson, Esq., for services in the matter of the applications to Congress for a rehearing in the Bromide case, which we hope the Association will consider.

We also present a statement of the way matters stand in the Shaw & Wilcox suit, and hope that these debts, \$1244.53 in all, will be removed. A little enthusiasm on this subject now, while you are together, a few dollars from each of you, will remove a heavy burden from your Association, and we feel assured that you will not be called upon again soon to defend your rights against the broad claims of any invalid patent.

Once rid of such drawbacks, we believe our Association will grow rapidly in numbers, and be strong, prosperous, and do good work, towards the elevation of our beloved profession.

Ex. Committee. { WALTER C. NORTH,
J. W. BLACK,
ED. L. WILSON, Sec'y.

Mr. Wm. B. Holmes, of New York, offered to be one of twenty-five to pay the

entire amount of the debt, growing out of the litigations named by the Executive Committee, at once, so that the Association might start off in the New Year free from debt.

Mr. Bogardus said that, while he was very glad to hear the offer of Mr. Holmes, he knew that there were many members who would be glad to subscribe something towards wiping out this debt, but who could not afford to pay one twenty-fifth of the amount.

Mr. Holmes said that his offer would not, of course, preclude any one from giving such amount as they pleased, or as they could afford.

Mr. Fitzgibbon, in behalf of the St. Louis Photographic Society, subscribed \$25.00. Mr. Jex Bardwell, in behalf of the Detroit photographers, \$25.00. Mr. H. Rocher, of Chicago, \$25.00. Mr. L. Dubernet, of New York, \$25.00. Mr. Albert Moore, of Philadelphia, \$25.00. Mr. D. Bendann, of Baltimore, \$25.00.

Mr. Tresize then moved that a committee of six be appointed, to pass papers through the room for the signatures and contributions of the gentlemen present towards making up the amount necessary to pay this debt. (Carried.)

Papers were then circulated, and in a half hour \$533.50 was collected.

Mr. Bardwell moved that the Report of the Executive Committee be accepted and adopted as read. (Carried.)

Mr. Bogardus said: "A gentleman from Bangor, Maine, has just arrived; yesterday I had the pleasure of presenting to you a gentleman from California. Extremes meet." (Applause.)

It was moved and seconded that Dr. Vogel be requested to sit at Mr. Ryder's gallery for an 8 by 10 picture, so that the members could procure copies. (Carried unanimously.)

Dr. Vogel stated that he would comply with this request of the Association.

The Association then adjourned to 3 P.M.

THIRD SESSION.

Wednesday afternoon, June 8th, 3 o'clock.

The meeting was called to order by the President, Mr. Bogardus.

The President stated that he had appointed as the Auditing Committee, Messrs. Cady, Riddle, and Sawyer.

The Secretary made a statement in regard to the money expended in patent suits.

The President then delivered his annual address, as follows:

"Again the season has come for our annual meeting. The sun has rolled his yearly round, cheering us and the whole earth with his life-giving beams, and we as photographers are doubly indebted for the work he has done for us with his light rays, making our negatives and printing our pictures. Again we meet to extend the hand of friendship and brotherhood, to note each other's attainments, and compare our work and see how much our art has advanced during the year. I think we may congratulate ourselves and the world on the rapid strides we have made since we met one year ago.

"The 'shadow picture,' then a new effort, is now becoming almost universal, and well it may, for the best judges have no hesitation in pronouncing it the finest effect yet produced with the camera. The Albert process is yet in embryo, but great promises are made and strong hopes are entertained that it will yet work a complete revolution in photography. The Woodbury process is before you, and you can in this building see the results and its working. I tell you, gentlemen, photography has a great future. It is not necessary for me to speak of the fine results of retouching the negatives; you know how wonderfully the prints are improved, how much beautified. Science is ready to call in the aid of photography, as during the recent eclipse. By no other process known to men could the event have been so accurately noted, for the sun marked its own obscuration with accuracy most wonderful.

"And now, gentlemen, from what this Convention shows, is our Association worth keeping up? If it is, then let us do what we can to enlarge its sphere of usefulness, and let every member exert himself to make its influence good. If of no use, then let us disband, separate; what say you? [Cries of "No!" "No!"] for I am in earnest in this matter. 'If I understand the motives of the officers, they are not influenced by selfish motives, but willingly work for the good of the fraternity.

"Gentlemen, you come not here to hear my powers of oratory; no, rather let our eloquence come from the dark-room, and be written in real letters of light by the delicate and truthful lens of the camera. I see before me men of progress. I do not mean by this, men ready to adopt every

visionary scheme that is offered, but men who have by skill, judgment, and hard work brought photography up to its present standard, and are willing to work still for its advancement.

"We mean to make this Association so useful to every photographer in the land that he will, for his own good, become a member of it. We now have members from almost every State from Maine to Texas, and there are gentlemen now present from nearly all the States—yes, and some from Canada, that fair land which the Fenians covet.

"Let us banish still further from us all selfishness. Let us feel that we are advancing the art when we assist each other. As I have said before, there are none of us perfect—all need schooling, and where can we get it better or cheaper than by such a general showing of our work as we have in the great room below. Let us try to excel, not undersell. [Laughter.] Let us try to keep clear of cliques, let there be a change of officers yearly, so that this charge cannot be brought against us. Let us pull together, and remember the old adage, so often quoted, 'In union there is strength.'

"One man in New York said he did not see the use of joining the Association and paying two dollars per year for nothing. Now, if he had been sued on the bromide or other patent, how soon he would have rushed to the arms of this Association to defend him. *We have defended him*, and every other man following the profession. But if he or any other man thinks it is his two dollars we are after, we had rather he should stay out. We want your influence more than your money. This sum of yearly dues is a mere nothing, but will in the future prove enough to pay the working of our organization, and give us a fund to defend ourselves against wrong and evil.

"There is one thing I wish to speak about. I hear that some gentlemen coming here have been delicate about hanging their work in the exhibition. This is wrong, gentlemen; let us see your work, perhaps some brother will give you a piece of advice that may enable you to greatly improve your pictures. We are not going to laugh at your work, but help you where you fail.

"Now, wishing you all success in the delicate and mystic art of photography, I close by introducing to you Dr. Vogel, of Berlin, who has come across the ocean to meet us, and who I now take pleasure in presenting to you."

Dr. Vogel, of Berlin, was then presented and received with loud applause. He spoke as follows:

MR. PRESIDENT AND GENTLEMEN: Allow me, in due appreciation of the many kindnesses and cordial welcome tendered to me since setting my foot on American soil, to offer you my most sincere and heartfelt thanks. You have given me occasion, through your kindly invitation, to become acquainted with a land and a people that had offered millions of my countrymen a friendly asylum, where they can exercise their diligence and industrial habits without the prejudices and restrictions of European peoples.

Our relations in Europe are of a peculiar and circumscribed nature. A certain adherence to the old gives to our German people a somewhat conservative character, which often stands in the way of progression. Thousands of intelligent men, who have persistently fought in vain against their prejudices, were compelled to turn their backs upon their fatherland to seek a home under your American flag—a land which, through the unlimited extension of its boundaries, through its great and colossal undertakings and the activity of its inhabitants, and through the independence of its institutions, calls forth the admiration of the Old World. Free from our European prejudices, men and things develop themselves with wonderful rapidity.

Whilst we in Europe have for the last seventy years sought some means to construct a railway through the Alps a short distance of only one hundred miles, the American people have built a railroad linking the Atlantic with the Pacific Ocean.

Again, whilst it takes some hundreds of years for European cities to obtain growth and commercial magnitude, large and powerful commercial centres like Cleveland, Chicago, San Francisco, and many other fine cities are growing up where only seventy years ago the red man hunted with his bow and arrow. But the activity and energy of the American people is also visible in scientific undertakings, as has been demonstrated by the astronomical observations made by the old and new world during the late eclipses of 1868 and 1869.

While combined Germany and England furnished only two photographic telescopes for the observation of the eclipse of 1868 in India and Arabia, America directed some thirty photographic instruments toward the sun, to note from time to time its different phases and changes, while the services of hundreds of your best photographers were brought into requisition, resulting in the production of many hundreds of the best photographs of the sun—a triumph for American photography and the American people.

Yes, gentlemen, to learn this land and this

people has been one of the most fervent and cherished dreams of my heart. My longing has been increased since my modest labors for the advancement of photography have brought me into intimate connection with my fellow-colleagues of America. At last I find myself in full realization of this dream, through your kind invitation. I would not flatter myself into the belief that the hearty welcome with which I have met is due to my own personal merits, but rather that you would thereby acknowledge the merits of German photography in general.

Within the last few years there has sprung up between us a large photographic intercourse. You learned to value and appreciate German photographs, and recommended the same as worthy of your imitation; and now American photographs are sent to Germany, and exercise already an influence over our native art. In this manner photography is advanced by alternate action.

Only thirty years have passed away since the light of this glorious art first began to dawn upon us. Nevertheless, no other invention in this or the last century has progressed in such a rapid manner, and exercised such a powerful influence over modern art, science, and culture, as photography.

A new era commenced with the invention of the printing press, through which the treasures of knowledge were multiplied and thrown open to the whole world. Yet the press could only multiply ideas, while there was wanting that which would fix and multiply the beautiful scenery and phenomena of nature, the work of art and industry. This was at last accomplished by the invention of photography. That which heretofore was only reproduced by the slow and uncertain pencil of the artist, is now achieved and multiplied by photography with lightning rapidity and truthfulness. As the printing press has become a medium for the general diffusion of ideas, so has photography become a medium for the multiplication of all that the eye can grasp. Photography has introduced a new era in the world of art, as the printing press has introduced a new era in the world of science.

In general, photography is looked upon as something easy to be acquired; but, indeed, there is no modern art wanting more multifold knowledge than photography.

First, as a result of the chemical action of light, there is required a thorough, practical knowledge of chemistry.

Second, as a handicraft, photography requires skillfulness and experience.

Third, as the product of photography is but a

picture to please the eye as a work of art, there is required artistic feeling and study.

For these reasons the progress of photography is due to the knowledge of chemical and optical principles, and a knowledge of the laws of art.

It gives me much pleasure to see that these principles, also here in America, find a recognition.

In Europe we sometimes labor under the hallucination that American photography has not yet arrived at a high point of perfection, because but few good American pictures find their way to our country. The actual observations, however, which I have made during my brief sojourn among you, have filled me with wonder and admiration.

He who would judge of the merits of American photography must in person tread upon American soil.

The photographer in your country works under greater and more manifold difficulties than the photographer in our country. Time and labor being of but little value in Germany, the German artist can finish his work at leisure, while you in America must make the best possible use of every moment, giving you less time to devote to your study and experimenting. Yet the art in America has been much advanced by your readiness and willingness to grasp and bring into practice all that is new and good, while on the contrary, in Germany, as the celebrated German Professor Liebig says, each new discovery must pass through three different periods before meeting with a general acknowledgment. At first it is proven that the new discovery is worthless and impracticable; second, later it is asserted that it is nothing new, that a similar discovery was made perhaps a hundred or more years ago; and it is not until the third period that the discovery is acknowledged and put into practical employment. Quite different is it with you. Whenever any new and useful discovery is made, the American people are the first to recognize the same according to its real merits or demerits, and for this reason I wish success and prosperity to American art, American science, and, above all, to American photography.

Dr. Vogel's remarks were followed by prolonged applause, and on motion he was given a vote of thanks for his excellent address and for his letters in the *Philadelphia Photographer*.

Professor Towler, of the Geneva College, New York, was then called for, and made the following remarks:

GENTLEMEN: You have called upon me to do

something I never did. I write a great deal, but never make speeches; that is entirely out of my business. Sometimes I have thought I would make a speech, and when I went to bed it seemed as though an evil spirit said: "You must not make a speech, because you will fail. Everybody will laugh at you." That has been the case here. I was afraid everybody would laugh at me. (Laughter.) I dreamed you would laugh at me.

[President: Dreams run contrary.]

Gentlemen, I am happy to meet you. Photography is not my business; it is my hobby. I have had in my life a good many hobbies. Quite early in life I had a hobby to make steam engines. I made a steam engine in Manchester, N. H., at the time when the railroad was put through. But that wasn't permanent; it didn't last long; the engine blew up. Then I went to Germany. I still had steam engine on the brain, and I made a steam engine to make coffee. That didn't last very long; for one morning, when I was about to go out fishing, I went to make some coffee with steam, and the police came in. Remember, the police in Germany are not like the police in America; they are autocrats. They took me before the court, and the court told me I must not make coffee with steam; it would disturb the neighbors; it made too much noise. Well, that hobby passed off. Then I got a hobby for printing. I got a printing press, and it was necessary to get something to print; consequently I took Schiller up, and translated some of his work and other things. Then I went to work and got two lithograph stones, something like that on which we print carbons according to the Woodbury process,—a plate above and a plate below, with the type between,—and I went on printing with that. Well, that hobby passed off. Then I invented a full system of stenography, which my wife said I could not read, and I gave that up.

I have had a great many hobbies, as I said before, but the final hobby, the one that now is, is the photographic hobby. You all know about that. You may depend upon it, gentlemen, when I get to the other country, you will find a photographic impression that you will make an autopsy. You will find it on the print and in the eye. It will be the last final hobby. I shall go on with it to the end. I hope I shall be able, gentlemen, to meet you annually as long as this Association exists, which, I trust, will be to the end of my days. I thank you, gentlemen, for your kindness in having listened so attentively to my desultory remarks. (Loud and prolonged applause.)

A vote of thanks was given Prof. Towler for his speech, and for the good work he has done in developing the photographic art.

The Secretary read a proposition from Mr. Youngman that the Association have an insignia or trade-mark, by which the work of members of the Association should be known.

Mr. Webster proposed that a badge be adopted, to be worn by each person.

Mr. Youngman stated that he had no idea the proposition would go so far.

Mr. Rulofson, of San Francisco, thought it proper that an insignia should be adopted by which the work of the Association might be known. The proposition met with general approbation.

On motion of Mr. Decker, Mr. E. L. Wilson was appointed a committee of one to prepare an insignia to submit to the Executive Committee, and if it be approved to print it in the *Photographer*.

Mr. Bogardus suggested as an insignia, a monogram of the letters "N. P. A.," National Photographic Association. Received with applause.

On motion, Mr. Wilson was recommended to employ the letters "N. P. A." for the insignia of the Association.

Mr. Bogardus stated that to-morrow morning's session would be devoted to the discussion of the profession, and then put the motion to adopt an emblem for the Association, which was carried.

Mr. Wilson stated that he had been requested to present the members with a copy of a pamphlet, entitled the "Photographic Menagerie," to be used in the discussion to-day, and the copies could be had after adjournment. He also read a communication from Mr. A. E. Alden for the Messrs. Lambert, requesting that a committee be appointed to examine the photo-crayons in the Exhibition and award the medals offered by those gentlemen for the best ones. The communication was laid on the table, as the Association thought it did not come within their province to act in the matter.

THE NEXT MEETING.

The question as to where the next meeting of the Association should be held came

up, and the words Chicago, Philadelphia, and St. Louis, were heard from different parts of the room. It was moved by Mr. Rulofson that it be held in San Francisco. Secretary Wilson read a letter from a number of photographers of that place inviting the members to meet there, as follows:

TO THE MEMBERS OF THE NATIONAL PHOTOGRAPHIC CONVENTION, CLEVELAND, OHIO.

Whereas, our fellow-citizen and brother artist, W. H. Rulofson, being about to proceed to Cleveland, Ohio, as delegate from this State to the National Photographic Convention to be held in that city on 7th June, 1870, we, the undersigned photographers of the city of San Francisco, embrace this opportunity to express our confidence in the ability of our brother artist, W. H. Rulofson, to faithfully and ably represent the interests of the photographers of California in said National Convention.

Resolved, That W. H. Rulofson, the delegate from this State to the National Photographers' Convention, be and is hereby authorized to cordially invite the members of said Convention to hold the next National Convention in the city of San Francisco, and that we pledge ourselves to use our best ability to render the visit of such members as shall attend the Convention in this city pleasant and instructive to them, and beneficial to our great and progressive art.

SILAS SELLECK,	B. F. HOWLAND & Co.,
G. D. MORSE,	WM. SHEW,
JACOB SHEW,	BAYLEY & WINTER,
C. L. CRAMER,	EDOUART & COBB,
H. W. VAUGHAN.	

SAN FRANCISCO, CAL., May 27, 1870.

Mr. Rulofson made some remarks on the question, speaking of the desire of his friends in San Francisco to have the Association meet in his city, and spoke of the facilities there offered. He referred to other conventions which had been held in California, where he thought there were attractions for all the lovers of art. Half-price fare, he said, had been offered by all the railroads, and some had agreed to bring back exhibitors free.

Mr. Elliot, of Indianapolis, proposed his city, and invited members to meet him there.

Mr. Wilson had thought "we were too young a baby to stand such a long voyage," but the inducements of Mr. Rulofson were

such that he felt an inclination towards San Francisco.

Mr. Hesler, of Chicago, proposed his city, "as it was the hub of the country." He spoke at length in behalf of his home.

Mr. Fitzgibbon, one of the oldest photographers of the country, proposed St. Louis, not thinking it a hub, but still believing it a solid city.

Mr. Adams moved that after a full expression of sentiment had been heard on the subject, it be referred to a special committee of three, to report to the Association to-day.

Mr. Bendann, of Baltimore, moved the committee consist of nine from different sections of the country. (Carried.)

The following gentlemen were appointed the committee: Bendann, of Baltimore; Elliot, of Indianapolis; Fitzgibbon, of St. Louis; Bogardus, of New York; Webster, of Louisville; Rulofson, of San Francisco; Hesler, of Chicago; Cady, of Cincinnati; Wilson, of Philadelphia.

Mr. Bendann was declared chairman of the committee.

The Committee on Group reported it had been decided to have the photograph of the Association taken before the Perry Monument in the public square, at 2½ P.M. to-morrow.

Adjourned to 10 P.M., to-morrow.

FOURTH SESSION.

Thursday, June 9th, 10 A.M.

The Association was called to order by Mr. W. E. Bowman, Vice-President, and the Secretary called the roll.

Mr. John R. Clemons, offered the following resolution:

Resolved, That the Secretary and Executive Committee are hereby authorized to have printed in cheap pamphlet form the Constitution and By-Laws and the names of all the members of the Association, and send a copy of the same to each member.

After considerable discussion the resolution was passed.

Mr. Bogardus stated that the contributions made yesterday towards the payment of the debt amounted to \$533.50, and upon motion the list was again circulated among the members.

While this was being done the Secretary

read two letters—one from Wilson, Hood & Co. of Philadelphia, and another from A. S. Robbins, as below.

PHILADELPHIA, June 4th, 1870.

A. BOGARDUS, Esq.,

President National Photographic Association.

DEAR SIR: As members of the Association we propose the following: Should the proposed Relief Fund be established in connection with the Association, we beg you to accept from us for the same the sum of \$250, subject to the draft of the treasurer of the Trustees you may appoint.

Should the matter fail, this sum or any part thereof not used, to revert to us, or rather to our direction, for the benefit of the Association, as we may dispose.

With best wishes for your success and harmony, we are

Truly yours,

For WILSON, HOOD & Co.,

JOHN G. HOOD,

EDWARD L. WILSON,

W. D. H. WILSON.

822 Arch Street, Philadelphia.

CLEVELAND, June 8th, 1870.

To the President and Members

National Photographic Association.

GENTLEMEN: I am conscious of the honor you have done us in our city, and I am sure it has been a great pleasure to us to have you here. Your principles and objects are most commendable, and your Relief Fund is specially a fine idea, I think, promising to do much good. I therefore ask your acceptance for that fund, of \$100, subject to the order of the treasurer of that Fund.

Truly yours,

A. S. ROBBINS.

On motion the letters were accepted and the thanks of the Association tendered to the writers.

The Secretary then read the resignation of Mr. H. T. Anthony of the office of Treasurer.

On motion Mr. Anthony's resignation was accepted.

Mr. Cady, of Cincinnati, reported, on behalf of the Auditing Committee, that the accounts and papers of the Treasurer had been examined and found correct.

On motion the report was received and adopted and the committee discharged.

Mr. Carbutt, of Chicago, as Chairman of

the Committee on Nominations, read the report of that Committee, in which the following gentlemen were suggested as officers of the Association for the coming year:

PRESIDENT.

Abm. Bogardus, New York.

TREASURER.

Albert Moore, Philadelphia.

PERMANENT SECRETARY.

Edward L. Wilson, Philadelphia.

VICE-PRESIDENTS.

F. W. Hardy,	Bangor,	Me.
B. W. Kilburn,	Littleton,	N. H.
N. S. Howe,	Brattleboro,	Vt.
J. W. Black,	Boston,	Mass.
W. W. Coleman,	Providence,	R. I.
J. K. Bundy,	New Haven,	Conn.
Samuel Holmes,	New York,	N. Y.
Edw. Anthony,	"	"
Jno. Reid,	Paterson,	N. J.
A. K. P. Trask,	Philadelphia,	Pa.
W. H. Whitehead,	Pittsburg,	"
W. H. Curry,	Wilmington,	Del.
Daniel Bendann,	Baltimore,	Md.
Alex. Gardner,	Washington,	D. C.
D. H. Anderson,	Richmond,	Va.
H. B. Hull,	Parkesburg,	W. Va.
C. M. Vanorsdell,	Wilmington,	N. C.
Geo. S. Cook,	Charleston,	S. C.
A. J. Riddle,	Macon,	Ga.
J. H. Lakin,	Montgomery,	Ala.
S. T. Blessing,	New Orleans,	La.
J. F. Ryder,	Cleveland,	Ohio.
D. K. Cady,	Cincinnati,	"
H. G. Fetter,	Logansport,	Ind.
Henry Rocher,	Chicago,	Ill.
H. L. Bingham,	Kalamazoo,	Mich.
J. C. Elrod,	Louisville,	Ky.
E. R. Curtis,	Madison,	Wis.
C. W. Zimmerman,	St. Paul,	Minn.
W. H. Jackson,	Omaha,	Neb.
P. B. Jones,	Davenport,	Iowa.
J. A. Scholten,	St. Louis,	Mo.
W. H. Moyston,	Memphis,	Tenn.
W. H. Rulofson,	San Francisco,	Cal.
H. B. Hillyer,	Austin,	Texas.
J. Lee Knight,	Topeka,	Kansas.

EXECUTIVE COMMITTEE.

W. Irving Adams,	New York,	N. Y.
V. M. Wilcox,	"	"
W. J. Baker,	Buffalo,	"
E. L. Allen,	Boston,	Mass.
J. Carbutt,	Chicago,	Ill.

COMMITTEE ON PROGRESS OF PHOTOGRAPHY.

G. H. Loomis,	Boston,	Mass.
Dr. H. Vogel,	Berlin,	Prussia.
G. Wharton Simpson,	London,	England.
J. H. Fitzgibbon,	St. Louis,	Mo.
J. C. Browne,	Philadelphia,	Pa.
John M. Blake,	New Haven,	Conn.
Prof. J. Towler,	Geneva,	N. Y.

On motion of Mr. Rulofson the report of the committee was accepted.

The officers above-named were unanimously elected by a rising vote.

Mr. Bogardus, responding to his re-election, said: "When this Association was first formed in Philadelphia, I little thought that I was the proper person to act as your chairman; but we had very little timber there, and we had to do the best we could. It was said that I should act for six months, but when we came to Boston, the committee and the Association insisted that I should serve longer. I have now served a year and a half, and I certainly hoped that I might go on the retired list. It would have suited me much better, for I feel that there are men with you to-day who have a much better knowledge of the duties of a chairman than I have, and who could do better for you than I. But your vote is very flattering, and I accept the office. We officers get some praise and a good deal of scolding; but I suppose a farmer never ploughed a field to give life to his land but what he disturbed some worms and grubs that squirmed and wriggled. (Laughter.) I had hoped that there would have been an entire change of officers. I don't want that there should be anything like the look of a clique about this Association.

"If I have offended any member in my rulings, I ask his pardon; if I have been compelled to call any member to order, it has been done for the benefit of the Association, and not through any personal failing." (Applause.)

Mr. Baker, of Buffalo, moved that the thanks of this Association be presented to the Treasurer and other retiring officers, who have so faithfully performed their duties. Carried unanimously by a rising vote.

Mr. Bendann, of Baltimore, on behalf of the committee appointed to select a place for the next convention, reported that, upon

a free and frank exchange of opinion, it had been decided that the interest of the Association would be best subserved if the next meeting were held in *Philadelphia*; and that the committee suggested, as Local Secretary for 1871, William H. Rhoads.

On motion the report of the committee was accepted unanimously, the committee discharged, and Mr. Rhoads elected.

Mr. Wilson moved that, when the Association adjourn, it be to meet in *Philadelphia* on the first Tuesday in June, 1871. Various other days were suggested, but this motion finally prevailed.

The Secretary re-read the report of the Relief Fund Committee. Mr. Adams repeated his suggestions as to the filling up of the blanks.

The report of the committee was unanimously accepted and adopted.

Mr. Hall moved that the report be published with the By-Laws and Constitution, so that it may be in the hands of every member of the Association. (Carried.)

The President appointed, as a Board of Trustees for the Relief Fund, Messrs. H. T. Anthony, Albert Moore, D. K. Cady, B. French, W. Irving Adams, and J. C. Potter.

Mr. Wilson said: "I was requested to make an explanation this morning. I desire to bring no personal matters before the Association, but this is rather of that nature. Yesterday, in the report of the Executive Committee, some remarks were made in reference to the sliding-box patent case as pending in the Supreme Court, and Mr. Southworth seems to have taken a little umbrage at what was intimated. I desire to say personally, and as one of the Executive Committee, that when Mr. Southworth's patent is decided to be just and valid, there will be no member more ready than myself to take it up. I have stated in my *Journal*, time and again, that he made a good box, which was worthy of being purchased, but I merely said I did not think his *broad claims* could be established."

Mr. Southworth said: "Yesterday I felt that I exercised much patience to have my name mentioned among the bogus patent men. I am satisfied with the explanation that has been made, and will only say in

reply, that we first had a trial in the court of the United States in Boston, which was decided in our favor. The case was again brought before Judge Nelson, who decided against us. We carry it to Washington next fall, and we mean and are willing to leave it to fair and candid men. I am satisfied with that, but I am not satisfied with any imputation that I ever was willing to take one dollar unjustly."

Mr. Adams moved that a committee of five be appointed to report on the matter of Apprenticeship.

Mr. Albert Moore, the newly elected Treasurer, here entered the room, and, upon being informed of his election, made the following remarks:

"Gentlemen, this is a little surprise to me. I have seen pictures of Fidelity in the shape of a large Newfoundland dog, and if I am selected as the Newfoundland dog, I might say I will hang on to the key. I thank you for reposing such confidence in me, and I hope that the funds of the Association will be sufficient to pay the funeral expenses of the Bromide and Shaw & Wilcox Co.'s patents." (Applause.)

The President stated that the amount raised on the paper circulated this morning was \$345, the Scovill Manufacturing Company and the Messrs. Anthony, of New York, having each subscribed \$100. Mr. Bogardus also subscribed \$50.

At the request of several of the members, Mr. Bogardus explained his method of medallion printing, and a discussion followed on printing and washing and trimming prints.

FIFTH SESSION.

Thursday afternoon, June 9th, 1870.

Session 3 o'clock.

The Association met pursuant to adjournment.

The President appointed Messrs. Trask, Bendann, Fitzgibbon, Decker, and Webster, as a Committee on Apprenticeship, to report at the next annual meeting.

The chairman of the Committee on Congress not being present, Mr. Wilson stated that the committee had secured permission from Congress to receive articles for exhibition from abroad free of cost, that a

copyright law for photographic productions was pending, and that Congress could not charter this Association. The committee was continued for another year.

Practical discussions were resumed as follows:

By Mr. Wilson: "Before proceeding to the discussion, I would state that, in the matter of Mr. Holmes's letter, which was read yesterday offering two medals, the Executive Committee have referred the letter back to the meeting, and asked the meeting to appoint a committee to make the awards at the proper time."

By the President: "Let me explain a little. It is not the intention of this Association to decide whose work is the best; we make no decision of that character at present, but this offer comes to us in a little different shape; it is for the greatest *improvements* in the photographic art, in apparatus, or anything that we consider of great use to the profession. Or if, at the end of the year, the committee shall determine that nothing worthy of this medal shall be done, then no medal shall be given; but if a real improvement has been brought out within a year, then Mr. Holmes's offer stands."

By a voice: "I would like to know if you wish to have it patented?"

By the President: "No, sir; there is nothing of that kind."

By Mr. Wilson: "I move the letter be accepted."

The motion, on being seconded, was put and carried.

The committee, suggested by Mr. Holmes to be called the Committee on the Scovill and Samuel Holmes Medals, was here appointed by the President, consisting of the following gentlemen: Messrs. M. Carey Lea, L. M. Rutherford, C. W. Hull, H. J. Newton, and J. C. Browne.

By Mr. Wilson: "I move that the Executive Committee receive during the coming year designs for a certificate of membership; something that a photographer would prize; something he can feel it an honor to hang up in his room; something that he can show with more pride than the simple little white paper we have now. (Applause.) And further, that members of the Asso-

ciation send designs to the Executive Committee, and that said committee report at the next meeting, which is to be held at Philadelphia next year."

Seconded.

By Mr. Hesler: "Is it necessary it should be from a member? Couldn't it just as well be from some party not an artist?"

By Mr. Wilson: "I withdraw the word member, and accept the suggestion as an amendment."

Motion put and unanimously carried.

At this stage of the proceedings, Dr. Vogel entered the room, and a beautiful album, from Mr. J. A. Scholten, of St. Louis, was presented to him in the following language by the President:

"Mr. Scholten, of St. Louis, has just placed upon me a pleasant duty, as surprising to myself as, I doubt not, it will be to you. He has asked me to present you this beautiful album. The one prominent picture is upon the outside, and is that of your self. I don't know that you will value that as highly as we do, but the inside contains a vast amount of beauty and pictures, which we hope you will carry back to Germany and show the people there that America can do good work; and, in order that German artists may know that America can do handsome work, we ask that they look at this; and may you be spared to send us, in your own good time, the expression of other men in regard to the excellence of this work. I take great pleasure in presenting it to you."

Dr. Vogel responded as follows: "Gentlemen, I beg your pardon, at first, that I cannot so well speak English as your kind President. Allow me, in a few words, to express my best thanks for all your friendly welcome extended to me, not only in shaking hands and with kind words, but in presents as beautiful as this. I will take this to Germany not only as a souvenir of my collections in America, but as a souvenir of American photography. I have found, from observation, far better photography here than I expected. I have found more excellence in all your work than I have found anywhere in Europe." (Loud and prolonged applause.)

By the President: "The next thing in

order is Mr. Wilson's explanations of some curious results of some operations of photography; and some, I think, need explaining pretty badly." (Laughter and applause.)

By Mr. Wilson: "Mr. President, I haven't any explanation to make at all. Here are the negatives and the prints, and I want the members to judge whether they are good or not. If they are not good, what is the matter with them?" (Laughter.) "I have merely brought these, Mr. President, for discussion. As I stated this morning, they are specimens of what I see almost every day of my life. The first one is intensified one hundred times; the second is a monument to dust and dirt; the third streaks and stains from ether and alcohol; the fourth is marred with what is termed tortoise-shell markings; the fifth is spotted with hypo splashings; and the sixth is pretty good. I merely wished to raise a discussion on the subject. Negative No. 1 is called a monument to sulphure of potassium. This negative is a type of the intensifying of the day. A great many photographers are in the habit of intensifying too much. My impression is that a good, round, soft negative is better than too much intensifying."

By Mr. Benecke, of St. Louis: "I have found the best intensifier to be bichloride of mercury, very much diluted. I prefer not to intensify at all; but sometimes I think it is necessary, and I have found that to be the best."

By Mr. Wiles, of Fremont: "I would like to have as many photographers as are here who can work right along without intensifying to raise their hands." (Several hands were here raised.) "I have frequently met photographers who don't consider redeveloping, using a little silver, as necessary; but I wish to know how many can work right along without redeveloping?"

By Mr. Eliot, of Indianapolis: "I wish to ask the gentleman from St. Louis, when he intensifies with a solution of bichloride of mercury, whether he varnishes his pictures with gum before varnishing, and whether the intensity increases after varnishing?"

By Mr. Benecke, of St. Louis: "I gen-

erally use a weak solution of gum placed upon a wet plate. I find the tendency is to lessen the intensity."

A voice: "How often does it peel off?"

Mr. Benecke: "Not so often as when it is not done."

A voice: "What proportion of mercury do you use?"

Mr. Benecke: "I find the weaker the solution the better. Of course, you have to have some in your water."

"Take a saturated solution of bichloride of mercury; add to it a saturated solution of iodide of potassium until all the iodide of mercury is taken up and the solution is clear again. Use two or three drops of this in one ounce of water for intensifying. Should a negative become too intense, a weak solution of cyanide will reduce it again. The advantage of this intensifier over all others is, that it will give no abrupt chalky high lights, and will bring out detail in the shadows hardly visible before. Wash well; and don't make the negative any more intense than you want to have it, as the varnish will reduce it but very little."

Mr. Holt: "I wish to find the best method of ventilating the dark-room."

A voice: "If the gentleman will look in the *Philadelphia Photographer* of a few months back, I think he will find three pretty good plans. I am having mine ventilated on the plans laid down there."

By the President: "My dark-room is ventilated rather peculiarly. There is a chimney running through the top of the dark-room. There is a trap-door, which we lay down over the chimney in the daytime and open at night."

Mr. Wiles, of Fremont: "I do not consider the intensifying matter disposed of. I have had some little experience in times gone by in the use of bichloride of mercury as an intensifier. Although I will not say that I altogether approve of it as an intensifier, yet it is necessary that a negative should be dried before intensified; then it is necessary that the bichloride of mercury should be very weak. A saturated solution in plain water will take up but a very small portion of bichloride of mercury. Take about half an ounce of that in four or five ounces of water, throw a little water over

the surface of the film, then throw the bichloride over it until you see it turn a very light color; the lighter the better. After that wash it, and flow it with a one-ounce solution of iodide of mercury. This bichloride of mercury solution penetrates into the film after it is colored. It is all on one side of the plate; if you turn the negative over, there are no signs of penetration; yet, if you look at it by transmitted light, it is of a greenish-yellow. By that means you will be enabled to obtain a very soft, mellow picture. I have a landscape stereoscopic negative, from which I struck off over a thousand copies, and I am now enabled to furnish as soft a picture as when it was first intensified. In intensifying, where the mercury goes through the film, you are apt to obtain a yellow negative, which will change into a light. The object is to have it penetrate as little through the film as possible. Keep it of a greenish color. The object of drying the plate before it is intensified is for that purpose."

By Mr. —: "I used bichloride of mercury for a good many years, and it made my picture look as though it was covered with milk. I know it was the mercury that did it, and I don't keep it in the house now."

Mr. Spencer, of Hudson, Mich.: "I want to ask a question about a difficulty that has troubled me perhaps more than any other one; and that is what, I believe, Professor Towler calls the 'fern leaf.' I call it infernal leaf; they show themselves with me on the right hand end of the double negative. The first picture to the right will be a perfect one, and the next one will be spoiled. I have spoken of the difficulty to several older artists than myself, and the conjectures seem to fall in with my experience, at least, of what the difficulty is. Some say, more acid. I have used acid until the developer was half acid (laughter), and that didn't remove the difficulty."

Mr. Bardwell, of Detroit: "I hardly like to answer the question that Mr. Spencer has suggested. I would rather that some one would answer it that has been through the mill."

A voice: "I would ask Mr. Spencer if

he ever tried alcohol when it operated in that way?"

Mr. Spencer: "I have."

Same voice: "Did it give relief?"

Mr. Spencer: "It did in that, but created a great many worse defects."

Mr. Youngman remarked, "he thought the difficulty arose from the uneven drying of the collodion, and illustrated the manner in which the plate should be held to avoid the difficulty."

Mr. Cole: "I think if the gentleman would boil down his bath and get his alcohol out, he would never be troubled in that way."

A voice: "That is so."

Mr. Spencer: "I have had the same trouble with a new bath."

Mr. Bardwell, of Detroit: "Now, Mr. President, I will not tell how to avoid it, but I will tell you how to cause it, and that is by having a dirty thumb in holding your plate. You will find, in forty-nine cases out of fifty, that those fern leaves come from the corner at which you hold the plate for cutting it. After it is dry you will find fern leaves at the corner where you hold it."

Mr. Spencer: "The difficulty occurs at the opposite corner to which I hold the plate."

Mr. North, of Cleveland: "The gentleman will find, I think, that it is not when he holds to cut it, but where he immerses it in the bath and takes it out to put it in the plate-holder. If there is any impurity on the finger, these little ridges will be found at the place where he takes hold at that time."

Mr. Rulofson, of San Francisco: "We are getting right at the pith of the thing now, getting the bull right by the horns. This is the rock on which ninety-nine out of every hundred photographers foundered. Scarcely a week passes but what I receive a long letter asking me to tell how to avoid this difficulty. My theory is not to finger any of my negatives. Some author on photography gets off this remark that, 'Causes so simple as to escape our notice, reverse our success in photography.' That has been my experience. It seemed that whatever might be done these infernal 'fern leaves'

would be present. I know how to make one hundred millions of photographs without seeing it. I think one of the causes is to be found in pyroxyline, which produces a hardened film. No matter whether you put acid or alcohol in the bath, or in what proportion you put it in, it will not flow evenly over; or should it flow evenly, it will not penetrate. I say I think that is one reason; there may be others. The reason why I rise to speak to this question is because two or three have asked me privately with regard to the treatment of the bath. I verily believe, if ordinary care is taken in the selection of collodion, and if any of the ordinary published formulæ are used, and if persons will adhere to a few simple rules, I think they will experience no trouble. I don't think the man lives that can repair a bath. I don't believe it is susceptible of repair, after a length of time. What I mean is, by adding a little silver and so on. My method of that is this, I don't think there has been a day for eight years, but what I have had six baths constantly employed from morning until night, and for six years I don't think I have seen one negative out of trim. I will tell you how I manage it, and will leave Brother Wilson, and the other able writers, through his *Photographer*, to give it to you in form, as I think that is the proper organ from which you should get those things. (Applause.) When a picture does not please me I look to the bath. I do not give orders about it, but look to it myself. When a bath ceases to be in order I place it aside, have it filtered and reduced to the proper strength, rendered absolutely neutral, and set away in the sun for six weeks. I have, perhaps, a dozen bottles standing in a row on a shelf, and when we want to use a bottle we take the one that has stood longest on the shelf, and so have new bottles always ready. I undertake to say, if every photographer present will abandon the idea of tinkering his bath, and will adopt the plan of placing them in the sun, he will not have that or any other phenomena. We all know very well if you don't fix your plate well, if you don't allow your collodion to set well, immerse it in the bath too quickly, twenty different phenom-

ena will be produced; the result will be according to the circumstances which cause the phenomena.

"But there is another point absolutely necessary, which is perfect cleanliness. Some men manipulate the picture, wash in the same water and wipe on the same towel two hundred times, leave fifty different finger-marks on the corners, go on and develop it, and then, after a few days, finding the picture is not complete, send to me and ask how to remedy it, and I send word back to keep the hands clean."

Mr. Wilson thanked the gentleman from San Francisco for his remarks with reference to the *Photographer*, and indorsed his suggestions with regard to avoiding the aforementioned difficulties.

Mr. Covert, of Lawrenceville: "I read an article in the *Philadelphia Photographer* about fusing the bath. I was not able to keep six baths at that time, but I kept a few bottles. When I have had a bath get out of order, I would dilute it down and fuse it, and boil it to proper strength and set it in the sun for a few days, and have since that had no difficulty. As for hardness or softness, I never had any difficulty with either; I always get good, soft pictures when I have proper collodion, and I work my bath very slightly acid. As quick as these get out of order I set them in the sun."

Mr. Rulofson: "I would evaporate them down 90 to 100 grains to the ounce. In order that all alcohol and ether be driven out, I put in water, then filter, reduce it to its proper strength by adding water and bicarbonate of soda, making it absolutely a neutral bath. I use the alkaline bath."

Mr. Bingham: "When my bath gets so it will not work just as I want it, I add a little *caustic potash* to the solution and set it in the sun from one to six weeks; when I want to use it I filter it; sometimes it will require a little acid to bring it up to the proper point, and I find I get very soft pictures when my bath is handled in that way. I think there are times when a bath needs doctoring, but when it gets so sick that medicine will not do it any good, it then needs evaporating."

Mr. Webster: "To remedy those fern

leaves, I use simply iron and acid for my developer. I add a little acid to this iron, and then my developer will not crawl."

Mr. Hall: "I believe about three-fourths of this trouble arises from want of experience, and I judge that from this fact: I had a young man to do the coating of plates, another one to make the sittings, another one to develop the plates, and the young man that developed was entirely under my charge. I had taken a young man in to coat plates. The young man doing the developing got into difficulty." I inquired what the difficulty was; says he, 'That man don't coat plates worth a cent; no man can develop from his coating.' I would send a young man of experience in coating to coat the plates, and almost invariably the difficulty was at an end.

"I believe further, a great many of these difficulties arise from the operator doing too many things, consequently he cannot get thorough practice in any one particular."

Mr. Johnson, of Cleveland: "I think the difficulty arises in many cases from imperfect chemicals, obtained from inexperienced druggists. There is one particular item, and that is acetic acid. I think, by having pure chemicals and careful manipulation, these difficulties will be obviated.

Mr. Hesler, of Chicago: "If there is nothing else on the floor, I should like to say a word about the developer. The great point for photographers who make photographs to obtain a livelihood, is not so much the ability to make a caricature as to make a pleasing picture. They must be made at the time the sitting is had. The object is to get expression, no matter how good your chemical effect may be on the plate. People like a good expression in their pictures rather than chemical effect."

Mr. Waterman: "I want to ask some of these gentlemen who talk about sunning the bath six weeks, if they do not think if the bath was neutralized and evaporated enough to drive off the alcohol and ether, if six hours sunning is not just as good as six weeks?"

Mr. Rulofson, of San Francisco: "Experience has shown me that it is not as certain in its results as six weeks' sunning. It

is twelve years ago that a photographer came to a little town I was trying to live in, and was going to use me up, but he did not stay long, and when he departed he left his office goods behind. The person in whose hands the goods were left, at the expiration of three years begged me to take them off his hands. I would take nothing but the silver. As an experiment I put the silver in the bath-tub and immersed the plate, and it was the first really excellent plate I ever made with collodion."

Adjourned until Friday, June 10th, 10 o'clock A.M.

SIXTH SESSION.

Friday, 10 o'clock A.M., June 10th.

The Association was called to order by Mr. Rulofson, Vice-President, of San Francisco.

Mr. Wilson moved that Mr. Rulofson convey to the Photographic Society of San Francisco the thanks of the Association for the invitation to hold the next convention in San Francisco, saying that although the Association was too young an infant yet to take so long a journey, he hoped the time would come when they should meet face to face and heart to heart the photographers of California. The motion was carried unanimously.

Mr. Rhoads offered the following resolution:

Resolved, That after this session all discussions upon the matter of defects in photographs shall be accompanied by specimens of such defects.

Mr. Kusel offered as an amendment that no member should speak more than once upon such discussions, so that all might have a chance to speak.

A further amendment was offered, that no member should speak more than once unless so permitted by the Association.

Mr. Rhoads accepted these amendments and the resolution was passed.

Mr. Wilson said: "I am requested to ask this question: 'How about Shaw's tanks? Are those who have them, and who have contracted with him to furnish him their wastes to refine, obliged to do so under the present status of the patent?' I

call upon Mr. Bell to answer that question."

Mr. Bell said: "I would counsel every one of you, if you have made a contract with Shaw, to break it. Don't possess his tanks any longer. Throw them out. I think, under all the circumstances, he could not recover one penny of damages against you, even if he should attempt it. I give it as my opinion that he has no legal right to enforce on you the use of this tank any longer. You can use it or not as you please."

Some discussion arose on this point, which was interrupted by the arrival of Hon. Stephen H. Buhrer, Mayor of Cleveland, who was introduced by the President, and addressed the Association as follows:

"MR. PRESIDENT AND GENTLEMEN: I am happy to meet you here and bid you a hearty welcome in behalf of the citizens of this city, and I am glad to know there is such a fine collection of specimens of your art here on exhibition. I did not come here with the expectation of being called upon to say anything, and, not being a speaker, I will merely extend to you a hearty welcome on behalf of the citizens of Cleveland."

Mr. Rulofson responded as follows:

"I suppose it will be becoming in me, as your President *pro tem.*, to make a few remarks by way of expressing our acknowledgment of the very great kindness we have experienced at the hands of the photographers and citizens of Cleveland, and more especially the honor conferred upon us by the presence of their Mayor. I think I express the sentiments of our entire body when I say that we are grateful to receive the hospitalities of the honored Mayor of Cleveland, and I thank you, Mr. Mayor, for your presence here this morning."

Mr. Bogardus, the President, having arrived, took the chair.

Mr. Webster said: "I had the great delight last evening of listening to the reading by Mr. Southworth of a portion of a paper prepared by him, and I am not satisfied, Mr. President, that this Convention should adjourn without enjoying the same pleasure that I did, and I hope a resolution will be passed setting apart twenty or

twenty-five minutes to Mr. Southworth of Boston, for the purpose of reading his excellent paper."

The floor was given to Mr. Southworth and the paper read by him, at the conclusion of which a motion was made that the thanks of the Association be tendered to Mr. Southworth for his valuable paper, and that it be published in the *Philadelphia Photographer*. Carried unanimously.

The committee appointed made the following report:

The Committee report that they have conferred with Messrs. Sweeny & Johnson in regard to the views taken yesterday. These gentlemen have generously offered to furnish Messrs. Wilson, Hood & Co., of Philadelphia, prints from their 14 x 17 and stereoscopic negatives at about cost, and that the amount realized for the sale above that amount will be placed to the credit of the Relief Fund. The price for the large group will be \$1.50 each, and stereographs 25 cents each. Orders to be sent to Wilson, Hood & Co. Samples of each to be here at the afternoon session.

The following communication from Mr. E. J. Foss, of Boston, was read:

"MR. PRESIDENT: I desire to do something for the Relief Fund, and would ask the Association to accept of one of my combination-curtained screens. I think some one here will readily buy it, as I have made arrangements for several since I came here. I will forward it nicely packed in a few days after I return to Boston. Price, \$25.

"Respectfully, E. J. Foss."

It was moved and seconded that the offer of Mr. Foss be accepted with the thanks of the Association.

Mr. Thorp, of Bucyrus, Ohio, made a few remarks upon the use of the reflector by photographers, claiming that it was dangerous to use them and required a great deal of experience to use them with safety.

Mr. Kusel, of Chico, Cal., said he thought if reflectors were dangerous, that was the very reason why photographers should use them every day in order to become accustomed to them, as some of the finest effects have been produced by reflectors.

The Convention then adjourned until 3 P.M.

SEVENTH SESSION.

Friday afternoon, June 10th.

The meeting was called to order by the President.

Mr. Bogardus announced that Mr. Walter C. North would receive orders in the Exhibition Hall for photographs of the group taken yesterday.

Mr. Adams offered the following resolution:

Resolved, That the Committee on the Scovill and Holmes Medals be increased from five to seven, and that the names of Professor Henry Morton, Ph. D. and Edward L. Wilson be added. The resolution was passed.

Mr. Bogardus said: "We were favored this morning by a notice from Mr. Foss, that if any person wanted to buy one of his screens, he would donate the \$25 to the Relief Fund. I would say that I have just bought one, and he refused to take the \$25, so that he has donated \$50."

Mr. E. Y. Bell said: "I heartily indorse that Relief Fund, and I donate \$25 to it."

Mr. Johnson said: "My invitation to the members to have a group taken was with the intention of giving the entire profits for the benefit of the Relief Fund. I feel the honor of your presence here, and I am willing to give my time and services for the benefit of the Association, and whatever profit may be made upon the pictures sold to members, shall be donated to the fund mentioned."

Mr. Wilson moved that the thanks of the Association be tendered to Mr. Johnson for the kindness and liberality with which he has conducted the whole matter, and that his offer be accepted.

Mr. Pugh, of Macon, Ga., offered the following resolutions:

Resolved, First. That the large collection of finely-executed photographs now on exhibition in this hall are sufficient evidence of an advanced standard of photographic excellence.

Resolved, Second. That we as an Association, and as individual photographers, have sufficient confidence in the good taste and proper appreciation of fine work by our patrons and the cultivated portion of the peo-

ple of the whole country, to believe that they will cheerfully pay an advanced price for our productions.

Resolved, Third. That while we do not believe in the establishment by us of a schedule of prices for the various classes of work to be practicable, yet we will each and every one of us strive to maintain the dignity of our profession by charging fair prices for the same, and that we urge upon all photographers the importance of demanding good prices for good work.

The resolutions were adopted.

Dr. Vogel then gave some illustrations of curious failures in taking photographs. He exhibited a picture of four balls, the two centre ones being round, while the outside ones were of oval shape. He explained that this was not a failure of the lens, but of the perspective; if the cone of the rays falling through the lens is cut by the plate in a rectangular manner, the shape of the balls in the picture will be round, but if it is cut in an oblique manner, the shape will be oval. For this reason, the marginal figures in group pictures suffer a similar distortion, the heads being broader than those in the centre.

Dr. Vogel suggested, therefore, that in the arrangement of a group, the broader figures should be placed in the centre, and the narrower ones at the ends.

The Doctor showed a second picture, by which he illustrated that it is an error to believe that an object will be broad in the picture if it is taken at a short distance, and slender if it is taken at a large distance, but that the contrary was the case. He had taken a plaster bust at different distances, from 47 to 131 inches, and proved that the picture of this object became broader and broader as the distance increased.

Dr. Vogel's letters to the *Philadelphia Photographer* will contain full illustrations on these points.

The Doctor then made a short farewell address to the Association, expressing his great surprise at the extent of this country, at the extent of photography and its resources here; of the extent of the friendliness and generosity of the photographers of America, and of thanks for favors shown him, promising that they should all be re-

membered by him forever in the fatherland; which was received with great applause.

Mr. Bogardus: "I must say just a word. I had some doubt in my mind when I heard that Dr. Vogel was coming, whether his presence would be agreeable or not. I expected to see a very important-looking, large man, with gold spectacles on his nose, and I was afraid we could not reach up to him. Mr. Anthony had invited him to make his home with him while in New York. I called upon him, and the minute I got the Doctor by the hand, I felt that it was *the right man*, but not the man I had expected. And a warmer-hearted man I never found.

"You have thanked us, Doctor; we thank you, for the many favors you have done us, for the many valuable hints you have given us, and for the many pleasant hours we have spent with you. In the name of the photographers of the United States, I thank you for your presence here." (Great applause.)

Mr. Bell then addressed the Association as follows:

MR. PRESIDENT AND GENTLEMEN: I am happy, and yet I regret to speak the parting word. It was only a few days ago that I entered this beautiful city as a stranger to this honorable body, and I return to New York to-night bearing with me the precious memories of my visit hither, and laden with the warm and personal congratulations of those whom I have here met. Truly, our meeting has been a pleasure, and it is with regret that we separate; but it must be apparent to all present that this session of your Convention has been an unclouded success. None can doubt it; none can dispute it. Many who had in the beginning but little faith, how large is the measure of their belief now! In all enterprises of this kind, when they are originally formed, there are doubting minds who deny defeat, and obstacles that become mountains rise at once in the pathway of progress; and the burden early in the life of such an association falls upon a few, and unless that few can take hold of it and bear it through the obstacles that appear in the way no success can be obtained. Now, it is not for me to say who have been the originators of this Association, but to-day is the second anniversary of your promising life: and you should feel grateful to those who have been the real founders of this organization, who have set on foot an enterprise whose influence reaches from the Atlantic shores on the east to the Pacific

on the west; from the far-off Gulf States in the south to the cold and sterile regions of the most northern boundaries of the United States. Surely, you have an enterprise here that not only in photography, but in the chemical sciences of the world, will gain for you the respect of all professions and of the public. The people will feel greater confidence in the work of photographers by reason of these Conventions and Exhibitions.

The question is not what you shall do to make this Association a success, for it is already that; but the question for the hour is, how shall we increase our usefulness, and how shall we make our influence felt? In the first place, it seems to me that you should impart your views, your knowledge, your experience, and the practical details of that experience, freely to each other (Applause.) That is what you meet for. You meet not as formal acquaintances and friends, but as a band of brothers—brothers in the art—and, I am glad to say, sisters, too. (Applause.) And if you are brothers, then you should feel familiar in one sense towards each other. You should uphold each other in the hour of trial, however dark the clouds might be, and rejoice with each other, when success mounts upon your banners as it has done during the year just closed. I see before me glorious triumphs for this Association, and I am led to say it because I see in your midst so many *young men*. Think of what examples you have before you. I need not go into the pages of history to bring them out. Even now I am thinking of one of your living monuments to rewarded industry and patience in practical photography; I allude to your distinguished President, Mr. Bogardus. (Applause.)

Who has not heard of his name? It is my privilege to go back twenty years in the recollection of this art, and as far back as when I was a boy, in my father's house, I heard the name of Bogardus. Truly, his name has been a household word. I do not say it in a vain or foolish way to compliment the man, because he is above and beyond it; but I say it proudly before the young to acknowledge the worth of his labor; and if he should speak for himself, he would say that his present success is by reason of patient industry, of observation, of gathering up his experiences and making them a part and parcel of his daily existence. Therefore, young men, do as he has done.

But you have before you greater lessons than he had before him. Value those lessons. Make all these great men the guiding stars of your professional life, and your success will be equal to, if not greater than theirs.

If time permitted, I could also speak of the names of Holmes, and Anthony and other great lights hailing from the State of New York, among whom there is none brighter than Baker, of Buffalo; and coming further to the West—to this beautiful city of Cleveland—I could mention with pride the names of Ryder, Johnson and the enterprising Sweeny. (Applause.) And going still further, I cannot forget the names of Carbutt, of Illinois, and Bingham, of Michigan, and Black and Southworth, of Massachusetts, and many others, who have made photography their life study.

I trust that at some day not far distant this Association will visit the golden gates of the Pacific, and partake of that bountiful feast offered by the distinguished member from California, Mr. Rulofson. (Applause.) And if this organization ever crosses the Plains and assembles in San Francisco, that city of such unbounded growth and intelligence, you can look up and say, "God bless the founders of this Association!" (Applause.)

I must close; but permit me, from the depths of my heart, to thank you for the manner in which you have received me; and I trust that if, by the blessing of God, I am spared to meet with you another year, I shall find you all rejoicing in still greater triumphs in the realm of your extensive and beautiful art. (Great applause.)

Mr. Wilson: "I like to see our members look ahead, and I have a motion here which was given me day before yesterday by Mr. Youngman: 'Moved, that Mr. Bell be appointed the Attorney of this Association, so that every member may avail himself of his counsel in time of need.'" Carried unanimously and with applause.

Just as this proposition was made, by a most singular coincidence, a summons was served, commanding Mr. Bogardus, Mr. Ryder, Mr. Anthony, and Mr. Wilson to appear before Justice Brand, of Cleveland, on Tuesday next. It was read to the Association, and was taken as a joke, the summons indicating that somebody claimed \$5 of the Association, and had brought suit to recover it. A great deal of sport was had over it, when it was referred to the attorney just elected. An inquiry into the cause of this suit reveals the fact that Mr. Arnold Green, a young lawyer of Cleveland, attended the Exhibition on Thursday evening. He tendered the ticket-seller a bill and re-

ceived change for \$5. The next day he returned and demanded \$5 more, stating that he had given the ticket-seller a \$10 bill and received change for only \$5. As he could furnish no evidence to substantiate his claim, and as he was unknown to Mr. Ryder, the latter naturally declined to grant the claim, whereupon the suit referred to was commenced.

Mr. Bell stated that one of his principles was promptness, and he at once proceeded to answer the summons for the Association, retiring amid great applause.

Mr. A. K. P. Trask, of Philadelphia, offered the following resolution:

Resolved, That the Executive Committee watch the progress of the Albert Process, and if they think it is advisable, that they have the power to buy the process for the Association.

Dr. Vogel was called upon to give his views in regard to the Albert process, and made the following remarks:

"The Albert process is very interesting, and may be very valuable in the future. You have seen some excellent specimens by it. The most interesting field of photography, I think, is that of portraits. If the Albert process is of any avail, it is for portraits. I have seen it used in Germany for portraits, and I believe it is possible to make with this process several thousand pictures at a lower price, perhaps, than those made in silver. But if you ask me if these pictures are as good as ordinary silver pictures, I must answer, No. I don't know whether the public will prefer an Albert picture at a low price, or a fine, excellent-toned silver picture at a higher price."

A vote was taken upon Mr. Trask's resolution and it was passed.

Mr. Wilson then offered the following, which was unanimously adopted:

Resolved, That the sincere and hearty thanks of this Association are due and hereby tendered to the following:

To J. F. Ryder, the able and efficient Local Secretary at Cleveland, who has been indefatigable in his labors for our annual meeting and exhibition, and to whose efforts its success is largely due.

To Prof. H. Vogel, Ph. D., of Berlin, for his presence with us, and for the instruction

and practical hints he has given us in his interesting addresses before the Association.

To E. Y. Bell, our efficient attorney, for his unremitting exertions to secure the rights of photographers, and for his able counsel.

To Mr. John Carbutt, of Chicago, for his interesting explanations and illustrations of the "Woodbury process," during the exhibition.

To Mr. J. W. Black, of Boston, for his exhibitions of glass transparencies by the electric light.

To the reporters of the city papers for their very full and accurate reports of the proceedings of this Convention.

To the press generally for the generous space given us, and the favorable terms for advertising.

To the directors of the Central Rink for the liberality of their terms for the use of this magnificent building for our exhibition and meeting.

To the members of the Young Men's and Women's Christian Associations, to whom we are indebted for a large portion of the handsome decorations.

To the railroad companies for their reduction of rates to members.

To the express companies for their favors in offering to return articles on exhibition at reduced rates; and

To the citizens of Cleveland for the hearty cordiality with which they have welcomed and extended their hospitalities.

The President, Mr. Bogardus, desired to pay an especial and deserved compliment to the reporters of the papers for the exceedingly accurate and faithful manner in which they had done their work. He doubted if any of the New York papers would have done as well, with so few mistakes, and he wished again to tender the thanks of the Association.

Mr. Johnson, through the Association, presented one of the negatives of the group taken yesterday, to Dr. Vogel to take with him to Europe.

Mr. Wilson moved that an entire set, or a copy of each impression taken yesterday, be presented to Dr. Vogel in the name and at the expense of the Association, to take home with him to Europe.

Mr. Wilson then made the following remarks:

"I forgot to include one part of my thankfulness, and that is my personal thankfulness, to the members for their attendance here. If you can find in this Convention any man happier than myself, I would like to see him. The growth of this Association was an object that I hoped for and worked for, but its success to-day is greater than I could have believed possible, although I think I was more sanguine in that respect than any one else. I desire, therefore, to tender my heartfelt thanks to all that are here for their cordial manner, and for the promptness with which they have relieved me in the discharge of duties that I have imposed upon myself for their sakes, and I hope that I may meet you all at our next annual convention in Philadelphia, where you will find a beautiful city, a hearty welcome, and a little bit of an office from which emanates the *Philadelphia Photographer*, and where, with the assistance of our Local Secretary, Mr. Rhoads, we will endeavor to give you a pleasant time, although we can hardly expect a greater success than this. With these few remarks I bid you all farewell."

Mr. Bogardus then spoke as follows: "We have had so pleasant a time together, that it is certainly unpleasant to separate. I have yet to find the first man who has not been warm-hearted. I have yet to find the first man who was sorry he came here. So far from that being the case, in talking with a man from Louisville to-day, he told me that he would not have missed it for \$500, and he spoke from his heart, I believe. With me, certainly dollars and cents don't count it. I have enjoyed it heartily. There are those who will grumble at us; but I remember the advice given by a great and good man, when another said to him, 'Some one has slandered me.' He said, 'Live so that nobody will believe him.' And I hope that the officers of this Association, and every man of us, will so conduct ourselves that when slanderers point their fingers at us nobody will believe them. I believe every man visiting this Exhibition will go back improved. The oldest operators among us have seen new things;

the younger operators have seen a great many new things; and I defy any man, with a particle of manhood in him, to go back and make pictures in the same old ruts as before coming here. If he has not got some stimulus to do better work than he ever did before, then his visit here is a failure. But I doubt if there is such a man. No, gentlemen, our work will be gaining and gaining until we shall meet again next June; and I only hope that during the coming year our progress may be as great as during the past.

"I again tender to you my heartfelt thanks for the courtesies I have received from you, and although my house is not a very big one, my heart is big enough, and I shall be glad to receive any of you when you visit our great city." (Applause.)

Mr. Wilson: "I omitted to tell you one thing, and that is that we all go home rich. The late Treasurer stated to me that it was possible that the receipts at the door would pay all the expenses of the Exhibition, and that the balance in the treasury, together with the amount received from new members, would send the new Treasurer home with \$1100 in his pocket. To this we have to add almost a thousand dollars in the *Relief Fund*." (Applause.)

An inquiry was made in regard to the subscription list circulated for the purpose of paying the debt of the Association, and Mr. Wilson stated that about \$900 had been raised. It was moved that the balance of that indebtedness be paid from the general fund of the Association.

Another gentleman moved that the amount be made up on the spot by subscription.

Mr. Bardwell offered as an amendment, that the matter be referred to the Executive Committee, with power to act. Carried.

A vote of thanks was then given to the officers of the Association for their untiring zeal, and for their endeavors to make this Convention a success.

A hearty three times three was then given for the National Photographic Association.

Three hearty cheers were also given for Mr. Ryder, who was called for, and made the following remarks:

"Gentlemen, I am very happy to see that every one is so much satisfied with the success of our Exhibition. If it should be our good fortune to have it here again—I hope it may be at some time—I have already put in my claim for the local secretaryship. For the patience that you have all manifested with me in the annoyance that I may have caused you, I am very grateful. As I bade you welcome to the city, I now bid you God speed home." (Applause.)

Mr. J. C. Potter said: "It seems to me that this is a fitting occasion for me to make one remark. At the time I requested that this Convention should be held here this year, I little thought of the amount of work that would be placed upon our worthy Brother Ryder; and I ask Brother Ryder's pardon for laying the last feather upon the camel's back, but that he has done his duty well and faithfully we all know."

Three more cheers were given for Mr. Ryder, and the Convention adjourned to meet at Philadelphia on the first Tuesday in June, 1871.

Although the business meetings closed on Friday afternoon, the Exhibition was continued until 10 P.M. Saturday, when the band played and repeated "Home, Sweet Home;" and thus closed the most brilliant scene in the life of American Photography.

EDWARD L. WILSON,
Permanent Secretary.

GERMAN CORRESPONDENCE.

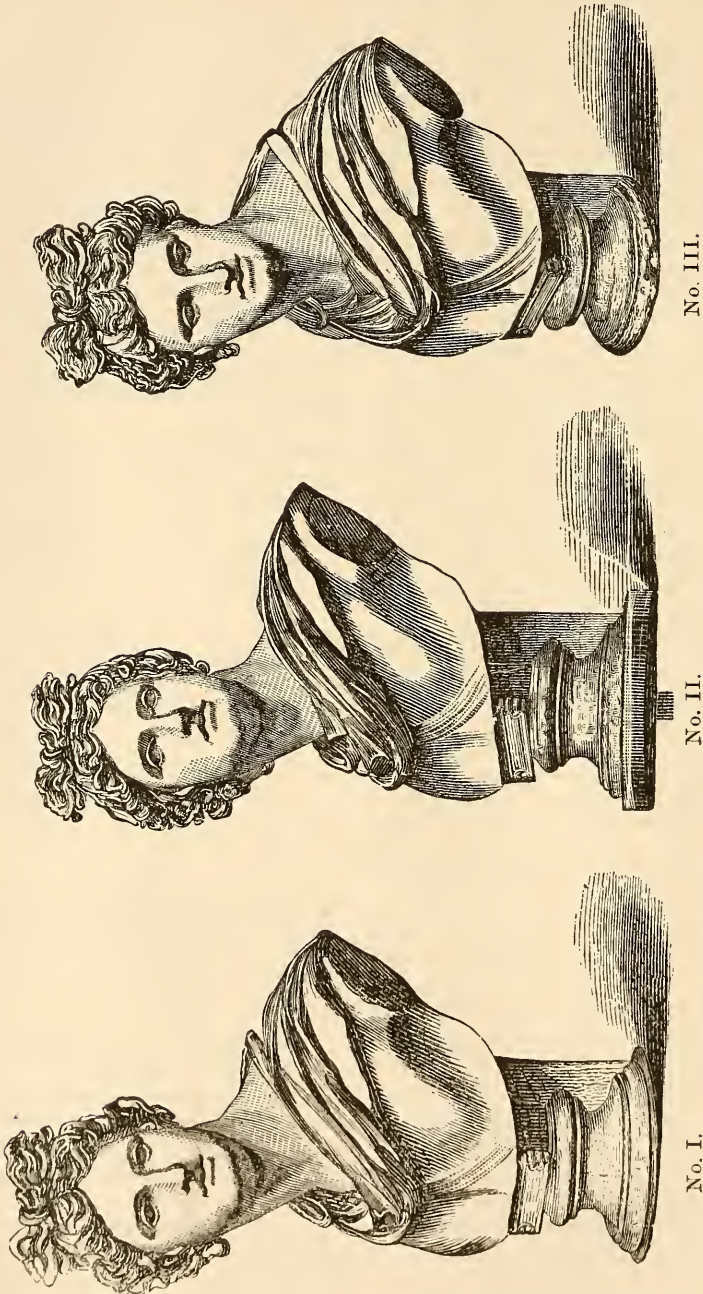
On the Effect of Inclining the Camera in Copying Statues, taking Portraits or Landscapes.

IN my last letter I called your attention to several peculiarities of our photographic pictures. In a number of examples I demonstrated the effect of distance, of the field of view, and the angle of aperture of the lens. In all these examples the apparatus had been placed exactly level; it is, however, well known that in the photographic practice the apparatus is very frequently inclined, and particularly is this the case in taking the picture of a sitting figure.

With an inclined apparatus other errors

will make themselves apparent, which I
will try to explain with an example.

The following three pictures of a statue of
the Apollo de Belvidere, were taken from



the same point with the same apparatus. In No. I the camera was placed level, in No. II it was directed upwards, and in No. III its inclination was downwards. The differ-

ence is striking. In No. I the eye looks straight forward; in No. II the head appears thrown backwards and the eye appears turned upwards; No. III looks downwards, the head is bent forward like that of an old man. The forehead in No. III appears large and broad, the head becomes pointed towards the chin. In No. II the forehead is small, the chin is thick, and the whole head oval. No. I shows medium proportions. The large expansions of the shoulders in No. III, and the strong contraction of the same in No. II, I cannot leave unmentioned.

But of more importance than all the above differences, are the differences in the character of the three pictures. The Apollo No. III has a sad and downcast look, and No. I does not show much of that wonderful majesty of the god which seizes us with such peculiar force in contemplating the original. Whoever has seen the statue, or only a good copy of the same, will remember the god-like figure, how he appears filled with divine anger, with which even a trace of triumphant scorn is mixed, and no one will doubt for a moment that only the central picture, No. II, approaches the true character of the splendid figure.

We deduce from this that the elevated apparatus furnishes in this instance the best picture. This circumstance must appear strange; the explanation, however, gives the fact that this statue was not placed on level ground, but was placed on a pedestal and was calculated to be seen from below.

It is easy to comprehend that, in this position, the more distant parts, as the head, must appear comparatively smaller than the feet, and to equalize these disproportions the antique plastic artist gradually increased the size towards the head, and worked the cavities and surfaces according to the standpoint of the viewer. Such statues are calculated to be seen only in the position for which they were originally intended, and, when placed on level ground or photographed with a camera placed on a level with it, they give a strange effect.

Any one who will take (photographically) such plastic works of art, must calculate well beforehand the standpoint for which they are intended. The majority of

the antique works, and many of our modern sculptures, require an elevated position, and should be taken as seen from below. A distance equivalent to three times the height of the statue should be selected; the apparatus should be placed in such a manner that the objective is about the same height as the feet, and it should then be inclined upward.

There are also statues which demand just the opposite course (from above downwards). Amongst these are many fountain groups, antique Nereids, and Tritons, etc.

In portraiture this is not the case; we live with our fellow-creatures on the same level. A position as in No. II is therefore out of the question, but we frequently place the apparatus inclined downwards as in No. III. The error that the head would appear slightly bent forward, is equalized by throwing the head of the sitter a little backwards. Another error, however, is not avoided by this proceeding, which is also visible in No. III, *i. e.*, the excessive width of the shoulders or the lap of a sitting figure. These errors can only be avoided by placing the camera exactly level (compare No. III with No. I). It is, therefore, better to work with horizontal or nearly horizontal apparatus, and to secure the want of sharpness of the front parts of a sitting-figure by inclining the ground-glass (swing back).

In landscape photography a horizontal position of the camera is almost a necessity; particularly is this the case with architectural objects; if we neglect this and give, for instance, an upward direction to the apparatus, we will find that the vertical lines converge toward the top.

A great many pictures now in existence will explain this. A landscape which has no architectural objects in it will show these errors a great deal less striking, and it may often be of advantage to raise the front of the camera a little. I have often done this in taking an avenue of trees, and it gave me a much deeper view into the foliage.

Much more liberty is taken in placing the apparatus above ground. We often go in the first, second, or third stories of houses, or even climb hills or mountains. This is done that we may overlook a larger area. Very good, but large and imposing structures

often appear so depressed that the good effect of the pictures is spoiled by it.

I cannot close this letter without giving expression to the pleasure I feel in carrying these lines myself across the ocean. For five years my letters have travelled this road, and many a token of kind sympathy have I received in this time from the far West; many a time have I cast a longing glance to those shores, but I never dared to hope that a kind Providence would vouchsafe me the happiness of placing my foot upon your shores. Now the dream of my youth becomes reality, a flattering invitation of my collaborators calls me to the United States. I follow it with a heart full of joy and gratitude.

Yours, DR. VOGEL.

On board Steamer *Alsatia*,
May 22d, 1870.*

COPY OF THE DECREE.

At a stated term of the Circuit Court of the United States of America, for the Southern District of New York, in the Second Circuit, held at the United States Court Rooms, in the city of New York, on the 16th day of May, in the year of our Lord one thousand eight hundred and seventy. Present: The Honorable Samuel Blatchford, Judge. *The Shaw & Wilcox Co.* against *George W. Lovejoy*.

This cause having been brought to a final hearing upon the pleadings and proofs, and counsel for the respective parties having been heard, and the same having been duly considered by the court, it is found and hereby ordered, adjudged, and decreed, that the letters patent, granted unto one Jehyleman Shaw, July 8th, 1862, and reissued April 5th, 1864, and by him assigned to the plaintiffs, June 15th, 1869, are not valid.

And it is further ordered, adjudged, and decreed, that the bill of said complainants be, and the same is hereby dismissed as against the said defendant, with costs to be taxed.

(A Copy.) KENNETH G. WHITE,
Clerk.

* Received too late for our June No.—ED. P. P.

Ayres's Chart of Photographic Drapery.

ON page 216 of our last issue we described a new and very useful article just introduced by Geo. B. Ayres, Esq., author of "How to Paint Photographs," intended to save the photographer a great deal of trouble and expense by enabling him to show his patrons without first making a trial, exactly how any color of dress will "take," or, in other words, how it "will show in the picture."

We allude to it again because we made a great mistake in announcing the price as \$5 instead of \$3.

It is Mr. Ayres's desire that one or more copies should hang in every photograph room, and he therefore fixes the price low. The photographic portion is an exquisitely fine specimen of copying, and was done by Mr. William H. Rhoads, Philadelphia, with a No. 6 Steinheil lens.

Mr. Ayres, to procure the proper colors necessary to make his "Chart" a complete *directory*, ransacked all the stores he could find in his city, and expended an immense amount of time upon their arrangement.

His work does him great credit, and will do much good. The plan of the Chart will be found in the advertisement, and at the reduced price should sell rapidly. Show this chart to any lady, and she will soon decide what dress to wear, and moreover she need not experiment on you until she gets a dress to "take" to suit her.

Executive Committee National Photographic Association.

THE Executive Committee of the National Photographic Association met at the Kennard House, Cleveland, O., June 10th, 1870, for organization. Messrs. W. J. Baker, Jno. Carbutt, V. M. Wilcox, W. Irving Adams, and Edward L. Wilson being present.

Mr. W. Irving Adams was elected Chairman, and Edward L. Wilson, Secretary.

The Secretary was ordered to procure books and papers essential to his office, and to record the proceedings of former committees.

It was agreed that *three* members should constitute a quorum for transaction of business. The Chairman stated that a quorum would probably meet monthly and report to absent members.

The stated meetings of the committee were ordered to be quarterly, the first to take place in New York, July 6th.

It was resolved to refer the matter of publishing Mr. Southworth's lecture before the Association, to Mr. V. M. Wilcox, as a committee of one, to confer with Mr. Southworth concerning it.

Secretary was instructed to report, at the next meeting, his collections for defraying the expenses of recent litigations.

E. Y. Bell, Esq., counsel of the Association was present, and conference was held with him concerning the future business of the Association, after which the Committee adjourned.

EDWARD L. WILSON,
Secretary.

PHOTOGRAPHIC SOCIETY OF PHILADELPHIA.

THE regular monthly meeting was held on Wednesday evening, June 1st, 1870.

The President, Mr. Frederic Graff, in the chair.

The minutes of the last meeting were read and approved,

The business of the Society was rapidly transacted, so that the members could have an opportunity of welcoming Dr. H. Vogel, of Berlin, Prussia, who arrived quite recently in this country for the purpose of attending the Annual Convention of the National Photographic Association, to be held at Cleveland. After a general introduction, the members conversed upon various photographic subjects, Dr. Vogel giving, at the request of the Society, some hints as to the manner of copying pictures and frescoes in dimly-lighted interiors. He stated that sufficient light was obtained by the use of one or more mirrors, the reflected light from which was thrown upon the picture to be copied. Wet plates were used. He had been very successful in giving long exposures with wet plates by the simple plan of dipping the collodionized plate in the silver bath, then removing the plate and dipping

in a bath of distilled water until all the oily lines on its surface had disappeared. The plate was again dipped in the silver bath and placed in the holder. The plate thus treated could be exposed a very long time, some hours, without serious danger of drying.

The Society then adjourned to attend a meeting of the Microscopic Section of the Franklin Institute.

The next regular meeting will be held on the first Wednesday in October.

JOHN C. BROWNE,
Recording Secretary.

FERROTYPERS' ASSOCIATION OF PHILADELPHIA.

A STATED meeting of the Ferrotypers' Association of Philadelphia was held at Mr. D. Lothrop's gallery, Tuesday evening, June 7th. The President, Mr. Trask, being at Cleveland, Vice-President Charles Naylor was in the chair. In the absence of the Secretary, who was also at Cleveland, Mr. Bolles was called to fill his place.

After roll-call the minutes of the previous meetings were read and adopted.

The Committee on Resolutions, Mr. Brooks chairman, reported having presented them to Mrs. Warrington, with a reply from her thanking the Association.

Messrs. A. A. Robertson and T. S. Estabrook, of New York, and Mr. Foster, of Philadelphia, were proposed and elected members of the Association.

Pictures were exhibited by Messrs. A. K. P. Trask, D. Lothrop, C. M. Gilbert, and Charles E. Bolles. One of Mr. Trask's pictures was decided to be the best.

Mr. Gilbert moved that hereafter each exhibitor be limited to three pictures. Adopted.

Voted to adjourn to meet at Mr. E. F. Warrington's gallery, Tuesday evening, July 5th, 1870.

CHARLES E. BOLLES,
Secretary *pro tem*.

LIGHT your *sitter* and not your room. It is the *quality* and not the *quantity* of light you use that makes the picture pleasing.

ADDRESS

TO THE

**National Photographic Association
of the United States.**

HONORED SIR: When, six years ago, our first Photographic Society was organized, we did not dare to hope that in the course of time we would meet with friends in foreign countries, much less that our efforts would be appreciated across the ocean.

With sincerest satisfaction, we have watched the interest which you, our co-laborers in the great American Republic, have bestowed on our endeavors, on the activity of our President, Dr. H. Vogel, and on the Journal which is the representative of our organization.

This is not all. By the numerous contributions from the rich treasury of your practical experience you have stimulated us, and the interesting specimens which you have repeatedly forwarded to us, particularly the detailed report on the photographic results of the expedition which observed the late eclipse, have instructed us.

You have spared neither pains nor expense to furnish the proof how high a value photography possesses for science, and thus you have spurred us to labor with equal devotion and energy for the promotion of this art.

Circumstances which have their origin in the great distance, and the comparatively limited intercourse of the people of our country with those of yours, are the only reasons why your excellent productions are not more generally known in our fatherland and among your German fellow-workers.

It was therefore a happy thought, which honors as well the one to whom it is especially addressed as also our Society, that you requested Dr. Vogel, in so liberal a manner, to view personally the productions of our art in your great country, as represented in the Cleveland Exhibition.

Willingly, but with a mind that fully comprehended the responsibility of his position, he left his post and family to follow your hospitable invitation, to enrich his experience at the best possible place; and

we look with longing eyes for his return, that he may show us how much we can learn from your science and your practical application.

And as the majestic sun, there as well as here, is the source of our labors, so may the progress and the natural beauty of our art be the common goal of our future exertions.

But from us is due the expression of our esteem and gratitude for the hearty sympathy which you have bestowed on our former activity.

BERLIN, May 18th, 1870.

By order of the Society for the Promotion of Photography.

THE EXECUTIVE COMMITTEE.

THEODOR PRUMM,	HANS HARTMANN,
Acting President.	1st Secretary.
J. JUNGHANS,	TH. MAROUSKY,
JOHANNES GRASSHOFF,	2d Secretary.
DR. W. ZENKER,	H. L. COG,
MAX PETSCH,	A. BURCHARD.

[The above address, handsomely inscribed, came to hand too late to read at the Annual Meeting of the Association, but is none the less appreciated or less gratefully received.—EDWARD L. WILSON, *Secretary* N. P. A.]

OUR NEXT PRIZES.

As announced last month, our next prizes will be for four classes of work, viz. :

1. Best portrait from retouched negative.
2. Best portrait from untouched negative.
3. Best composition or genre picture.
4. Best landscape picture.

These four branches of photography all need developing, and we hope that competitors will earnestly try to make the best work they know how. If any are deemed unfit for competition by the judges, the judges will reserve the privilege of throwing out such entirely.

Our object in this matter is to encourage honest effort to improve, and to be enabled to present our readers with pictures fit for their study and imitation. Please meet us in the same spirit, and let the response be large. A set of the pictures of the class

competed for will be sent each allowed competitor free. The time will be limited to October 15th, when the judges will meet and make the awards. There must be *two to four negatives alike*, from each competitor, and the express must in all cases be prepaid.

The medals shall be of U. S. coin gold, solid, handsomely wrought, and the name of the successful competitors inscribed thereon. ..

SOME REMARKS ON THE CLEVELAND EXHIBITION.

BY DR. H. VOGEL.

ALLOW me a few remarks on the late Cleveland Exhibition, at which it was my good fortune to be present. The comparison with the Berlin Exhibition of 1865 and the Paris Exposition of 1867, urges me particularly to express my views now.

The latter two exhibitions may have excelled yours in the quantities that were exposed, but hardly in the quality of the work; and the most famous of the French exhibitors, Berlin and Parisian photographers, were represented in Cleveland; when we add to these a long list of able American artists (who in Paris were only partially represented), we cannot feel surprised at the brilliant success. I regret that American artists have contributed so little to European exhibitions, or the opinions in Europe of American photography would be quite different. Of how much importance exhibitions are for the progress of photography has been demonstrated in Cleveland in the most striking manner.

In Paris, the pictures of Adam Salomon attracted more attention than any others. American photographers have probably seen the least of the French Exhibition, and still your Exhibition proved how the French artist is appreciated here, and how many have followed in his footsteps. In Germany, his pictures have perhaps been acknowledged, but hardly any one has imitated them. However, this Salomon style, with its effects partially produced by copying tricks, will only be suitable for certain peculiar cases. The process requires much time and a very artistic printer.

Besides Salomon, Reutlinger has certainly exercised a great influence, as well as the works of my Berlin countrymen. Salomon suppresses details, except in the face and hands; with him the accessories are lost in the half shade. Reutlinger and the Berlin artist pay more attention to them. Salomon works darker than nature, the others try to approach the natural tone.

It is not my intention to give a review of the Exhibition; I only can mention certain specimens as types, and explain their peculiarities.

In the pictures of Lœscher & Petsch, the desire to harmonize the persons with the surroundings, such as furniture, background, and accessories, is manifest. These things have their significance; we live amongst them, and to place them in the picture is natural; only they must appear in color and arrangement as secondary, and must be in harmony with the rest of the picture.

Painted backgrounds have very often a stagy effect. Lœscher & Petsch employ them very little. They have real furniture, partly in rococo or renaissance style, the color of which is varied until it produces the desired effect in the picture.

As a special progress in photography, negative retouching must be considered.

In Paris, several photographers were quite indignant when I expressed the opinion that their negatives had been retouched. They seemed to consider this a crime, and shrugged their shoulders when I told them that in Germany nearly all the negatives are retouched. I am glad to be able to say, that the Americans do not turn up their noses at negative retouching, but that they know very well how to apply it.

Besides the above-mentioned works, your Exhibition showed pictures which indicated a peculiarly American tendency, which has already made itself felt in Europe. In this class belongs, first and foremost, the Rembrandt style. This style is apparently generally appreciated. Mr. Kurtz, of New York, is right when he says that an ordinary face, lighted in the ordinary manner, will always remain ordinary, while an extraordinary light effect can give to the most insipid features a certain intellectual aspect.

Generally, the very black background of the first Rembrandts has been abandoned. The toning of the background, light on the shadow side of the face, and dark on the light side, is the first condition for producing a "relief." Salomon toned his backgrounds by exposing his prints to sunlight, Petsch by shading them, and Kurtz by a curved background. The latter is certainly one of the most interesting American inventions. How many variations this style has experienced in the course of time is shown by the pictures of Howell, who has only retained the light effects, and who keeps the background much lighter than has been done heretofore with Rembrandts.

Another branch much cultivated in the United States are the enlargements. In Germany, this work is only done in the southern parts. In the north, the sunlight is too often wanting. In Berlin, not a single enlargement is made any more. I was not a little surprised when I saw in Philadelphia, in the establishment of Mr. Moore, eighteen enlarging apparatuses in operation.

The demand, of course, produces a greater practical experience, and I must confess that I have nowhere in Europe seen such excellent enlargements as in the United States.

The so-called photo-crayon style seems, in skilful hands, well adapted to enlargements; for smaller pictures it is less suitable; they appear too much like lithographs.

At all events the cultivation of these varied branches of portraiture shows the great zeal and activity of American photographers.

Without any desire to flatter, I can make the assertion that you have as good artists in America as we in Europe, only the direction in which they work is different.

The same holds good in landscapes. Excluding the pictures of the Yosemite Valley, which were already known in Paris, this branch was, in quantity, not very strongly represented.

The dry-plate processes of Carey Lea and Newton may become very important.

Quite different again, are the printing processes, the Albert process and the relief printing process of Woodbury. Where a dozen copies only are wanted, these new inventions

have perhaps no practical value. Their importance lies in the production of quantities for the illustration of books or collections of pictures for scientific or technical representations and reproductions.

Albert's process is more like lithography, and the pictures are printed in a similar manner; they do not reach the delicacy and depth of a silver print. How many impressions a plate is able to furnish has not been ascertained yet. The printing itself requires much skill. This process is best suited for reproducing crayon drawings. The Woodbury pictures approach, in delineation, depth, and half-tones nearest to the silver print; the printing is easy and the number of copies that can be made is very great. Large pictures seem to offer some difficulty, but the success of the process for the production of smaller pictures in large quantities seems to be established beyond a doubt.

Vainly did I look in your Exhibition for specimens of the so-called Berlin Process. I do not believe that the artistic negative retouch can be replaced by any mechanical or chemical process; it is, however, possible that by such a method softer half-tones may be gained in the face, as is plainly visible in the specimens shown; these pictures, are, however, deficient in sharpness, which is partly caused by the fact that the diffused daylight, as well as the direct sunlight, produces the print. In this respect, the principles of the printing apparatus by Hamilton, of Sioux City, is worthy of notice. The apparatus consists of a dark-box, at the bottom of which is the printing-frame; the box can be turned towards the sun in any direction, and diffused daylight is excluded by the sides of the box.

For years our negative and positive processes have remained stationary, and it seems almost as if no improvement in the mechanical or chemical methods was to be expected, and yet the Obernetter paper and the collodio-chloride of silver pictures on opal glass show that greater fineness can be produced than with ordinary albumen paper, and I believe the time is not very distant when an albumen paper will be made which will yield as fine results as collodio-chloride of silver on opal glass.

The main thing, however, even with the

best process, is pose and illumination. Without a due regard for artistic principles the best chemicals and papers will fail to produce a beautiful picture.

PHOTOGRAPHIC DIALOGUES.

(SEQUEL TO ONE HUNDRED DAYS IN A FOG,
ETC., CONTINUED.)

BY ELBERT ANDERSON,

Operator at W. Kurtz's Gallery, 872 Broadway, N. Y.

Evening the First.

Mr. A. Ah, Mr. Marshall, good evening! I am glad to see you; sit down.

Mr. M. Thank you. I've a thousand questions to ask.

Mr. A. No doubt; and as our pow-wow (as my very much better-half prettily puts it) is likely to be a long one, I do not intend, as you see, to talk on the *dry process*. There are the coffee and tea processes; these I fully discussed half an hour ago. The beer process is not to my *taste*. Here, you see, is a bottle of *Veuve Cliquot*, some fruit, and biscuit, here pipes, there cigars; so all you have to do is to sit down and make yourself perfectly comfortable.

Mr. M. Well, here's my best regards. Now, since I have this glass in my hand, suppose we commence with the subject of glass itself. I presume you employ only the finest plate-glass; you must, of course, to produce such delicate results.

Mr. A. There you are mistaken. We use the ordinary photographic glass; that is, a better kind of common window-glass—supposed to be flat and not *curved* (which it is), and to be free from bubbles and scratches (which it isn't). The price of this glass, at any of our stock-houses, for "four-fourth" ($6\frac{1}{2}$ inches by $8\frac{1}{2}$ inches), is five dollars per box of one hundred and thirty pieces. I never file, grind, or scrape off the edges; not seeing the least necessity for so doing. You know what Mrs. Jellyby says: "You may go into Holborn, without precaution, and be run over. You may go into Holborn, with precaution, and never be run over. Just so with Africa," or glass rather. With precaution you will never cut your fingers. You may as well be afraid of cutting your throat whilst shaving.

Mr. M. Is not this kind of glass very difficult to clean and polish? I should think it would take one man to do nothing else all day long, and a smart man at that.

Mr. A. Nonsense! my boy Charley prepares from seventy to eighty plates every evening between the hours of five and six for the next day's work.

Mr. M. Why I should think it would require at least five minutes to polish *one* piece *properly*.

Mr. A. Polish! possibly; I said nothing of polishing. Have you ever heard of *al-bumenizing* the glass?

Mr. M. Oh yes, but *that* won't do; it ruins your bath you know.

Mr. A. Pray, Mr. Marshall, who told you that al-bumenizing the glass ruined the bath?

Mr. M. Why everybody, you know; they say that—what! You don't mean to say, eh?

Mr. A. Certainly; every piece of glass I have ever used was al-bumenized.

Mr. M. And it don't put your bath out of order?

Mr. A. I have never yet discovered that it has the slightest effect on my bath.

Mr. M. Indeed! what do you consider the advantages of al-bumenizing the glass?

Mr. A. The advantages are very great indeed. *First*, it saves a very great deal of *real hard work* in cleaning and polishing plate-glass, which (second), is very expensive. Third, the troublesome and disagreeable business of grinding or scraping the edges (to say nothing of the time involved) in order to get the collodion film to adhere, is also dispensed with. I have never lost a single film during my entire practice. Fourth, you are always certain of a perfectly clean plate; and fifth, it can be prepared in any quantity, and is always ready for instant use. There! so much for al-bumenizing glass.

Mr. M. Do I understand you then, that you consider this glass, so prepared, equal in every respect to the best polished plate for negatives?

Mr. A. Certainly not. One would suppose you to be "the party of the name of Reynolds," you jump so to conclusions. I consider nothing of the sort. Where we

have to make from sixty to seventy negatives a day, the expense and labor saved, before mentioned, are immense, and this kind of glass answers every purpose for our ordinary portrait work. But, when you come to special negatives of prize pictures, copies of works of art, penmanship, maps, plans, etc., I assuredly recommend plate-glass. Even *this* I should albumenize.

Mr. M. Isn't this, as it were, painting the lily, gilding refined gold?

Mr. A. No, sir; you cannot possibly do any harm; you are absolutely sure of a clean plate in the first place, and your film is fully insured in the second place.

Mr. M. What is your method of preparing your plates?

Mr. A. Provide two large stone pots, each capable of containing the necessary number of plates required. Into one put a solution of hydrate of potash in water.

Mr. M. Is there any *civilized* name for hydrate of potash?

Mr. A. Its *foreign* name, if you like, is protoxyd of potassium. You will excuse my going into the chemistry of potassium at present. Ask your grocer for a 1-pound can of concentrated potash. Dissolve this in one gallon of water. In the other pot put undiluted commercial nitric acid. New glass, as it is taken from the box, is not generally soiled with grease nor dirty fingers; it is first lightly washed under the tap to free it from the straw and dirt of the box, and then placed side by side, *one piece at a time* (this is all-important, that the solution may gain free access to all parts of its surface), in the acid pot, where it may remain for any convenient length of time. Old negatives, which are not required to be kept, are placed side by side, one at a time, in the potash pot. After the negatives have remained in this solution all night, they are washed under the tap with a piece of canton flannel, when every trace of old film, grease, dirt, etc., is instantly removed as if by magic. These then, like new glass, are now ready for the acid pot. And thus you "keep the pots a biling."

Mr. M. What is the rationale of this potash and acid business?

Mr. A. I am really pleased to find you in this inquiring frame of mind; for a

proper understanding at the outset, of the "*reasons why*" is of the first importance, and may save you the mortification of many a future failure. The detergent, or cleansing action of soap, for instance, depends entirely upon its alkaline constituents. Water alone, by reason of its total want of *affinity* for all fatty, grease, or oily substances, is unable to dissolve them; but when soap is dissolved in water, a portion of its alkali is set free (by the substitution of water as a base) and uniting with the impurities to be removed partially *saponifies* them, thus rendering them soluble in water. Now, hydrate of potash in solution possesses the properties termed alkaline in the very highest degree, and quickly destroys both animal and vegetable matter; in fact, so strong is its solution, that it cannot be filtered except through pounded glass or sand. Glass is a compound, produced by fusing together the silicates of potash, lime, soda, magnesia, alumina, etc., etc.; and *new* glass is frequently spotted on its surface with small, gritty particles, which consist of carbonate of lime, soda, etc. *These* are *not* removed by the action of the potash, but are readily dissolved by the acid.

Mr. M. I am obliged to you.

Mr. A. The glass is taken from the acid and washed on a board, under the tap, with a piece of Canton flannel, and can be either albumenized at once, or kept in a suitable vessel, *under water*, until you are ready to albumenize. Be careful in both cases, that the acid and potash entirely cover the glass, else it will be almost sure to leave a line where the surface of the liquid touched the glass.

Mr. M. How is the albumen prepared?

Mr. A. The albumen is prepared as follows: Into a 64-ounce bottle (never used for any other purpose), I may as well mention here ["once for all," as Fanny Dorrit says], that I have pestles and mortars, graduates, funnels, bottles, etc., etc., which I only use, each for a special purpose, hence avoiding all possibility of contamination. Well, then, into a 64-ounce bottle, containing half a handful of broken bits of glass, put the white of one egg and 28 to 30 ounces of water, which is sufficient to albumenize 150 plates, and shake well for eight or ten min-

utes. The broken bits of glass "cutting up" the albumen, thus causing it to dissolve more readily in the water. Now turn the bottle upside down, until the froth has all risen to the top of the liquid. The cork being gently removed, the mixture is suffered to flow into a funnel furnished with a white paper filter, the froth remaining behind in the bottle. The whole operation occupying about fifteen or twenty minutes. When filtered it should look perfectly clear like water.

Mr. M. It strikes me you are a little indefinite here. You say the white of *one* egg; consider, sir, *all* eggs are not of a size.

Mr. A. But very few eggs contain more than one ounce of albumen,—mark you, I mean hen's eggs, not ostrich's eggs,—and the amount of water mentioned is the minimum, for you may increase it to 35 ounces of water for very large eggs.

Mr. M. Do you not use ammonia, as I see recommended by the *great Moguls*?

Mr. A. The addition of ammonia to albumen is said to render it more fluid, and to preserve it "sweet." Where it is desirable to prepare albumen in stock, say half and half, this may be very proper; but as I make it fresh every day, I have no occasion to contaminate it with useless foreign substances. When ready to albumenize, you will notice, by holding the edge of the plate to your eye, that it is generally slightly curved, and it is *always* on the concave or hollow side that the albumen is to be applied.

Mr. M. Why so?

Mr. A. If you coated the convex side, your plate would come a little out of focus; the centre of the plate coming nearer the lens, and the spring at the back of the plate-holder would tend to still further increase the error, whereas the opposite result obtains in the other case. Allow the water from the tap to flow on both sides of the plate, rubbing the glass gently with the fingers to insure the wetting of all the surface. Let the water run off at one corner until it ceases to drop. The albumen is now poured on (while the plate is still wet, of course), from an 8-ounce graduate, half full. The under edge of the lip of the graduate must be lightly rubbed with tallow, which prevents

the albumen from running down the side by capillary attraction. Bring the lip down so as to nearly touch the surface of the glass, to avoid the formation of bubbles, and pour on about a teaspoonful. As you do so, you will plainly see the albumen driving the water before it. Tilt the plate until its surface is carefully covered, and suffer the surplus to run off at one corner into the sink. The plate is now placed on a rack (used for no other purpose) in a room free from dust. I do this in my dark-room. Cover them with a light paper cover, and in the morning they are put into a grooved box furnished with a cover. It is well to put them with the albumen sides all in the same direction, as it is impossible to tell by the eye which side is albumenized. Should any doubt occur, however, you have only to breathe on the surface of the glass, the breath remaining a moment on the bare glass, and scarcely an instant on the albumenized side.

Now, sir, if you will honor me with your attention to-morrow evening, the next subject in order will be

The Mysteries of Collodion,

and so, good-night to you.

Mr. M. By-the-by, one word before I go. I wish to ask you a very material question. I now quote from a letter of yours: "I cannot, for an instant, harbor the thought that any of these gentlemen wrote what he knew to be false, nor will I accept the other alternative, that he wrote in deplorable ignorance on the subject." If so, how do you reconcile such contradictions as the following? For instance: *Thirty-second day.* Always filter your bath after each day's work.—(*E. L. Wilson, Mosaics, 1867, page 141.*) *Thirty-third day.* Neither should the bath be filtered after it has once been put into use.—(*Devine's Practice, page 36.*) One must be wrong, you know.

Mr. A. You will excuse me, Mr. Marshall, but I *don't* know anything of the sort. Now let us understand, in the first place, what was intended in the "fog papers." Mr. G. Wharton Simpson, the very able correspondent of the *Philadelphia Photographer*, "hits the nail exactly on the head," when he says, in a very few com-

mon sense words, the following: "Whilst, however, it must be conceded that in matters of practice authorities may reasonably differ *without either being absolutely wrong*, (the italics are mine), the careful student will quickly discover the source of the mental fog which his brother novice's diary presents. . . . It would not be difficult to harmonize the greater portion of, if not all, the contradictory passages quoted.

Mr. Anderson doubtless intends the reader to make for himself the very obvious reflections on the importance of studying each process as an entirety, remembering that disjointed formulæ, not duly related in all their parts, will generally bring failure, etc.

Here's the whole thing "in a nutshell." Now I will take your own examples just quoted. 1st. Filter your bath every evening. 2d. Do not filter your bath, etc., etc.

Suppose you have a bath containing from four to five gallons, in perfect order, and during the day you have dipped three or four plates; think, Mr. Marshall, what an absurdity it would be to filter the bath, there being not the slightest occasion therefor. But, on the other hand, suppose your bath to contain only a half gallon of solution, and you have dipped fifty plates; the chances are you have reduced your bath at least twenty-five per cent. in strength, and charged it with alcohol and ether, and many other foul matters. It may now require not only filtering, but strengthening and boiling, etc., etc. Thus you see how one may contradict the other, and yet both be perfectly right; it all depends upon the circumstances immediately connected with the case.

NOTES IN AND OUT OF THE STUDIO.

BY G. WHARTON SIMPSON, M.A., F.S.A.

*Obernetter's Photo-Collographic Process—
Lichtdruck—Standard Sizes of Photo-
graphic Plates—Carbon Eburneum Prints
—Platinum Toning.*

LONDON, June 1st, 1870.

A New Photo-Collographic Process.—I have recently had an opportunity of examining some examples of a new photo-collo-

graphic process, the invention of Herr Obernetter, of Munich. The prints are exceedingly perfect, in general character resembling the best of the productions of Herr Albert, with the difference, however, that in those of Herr Obernetter the presence of an exquisitely fine stipple, resembling the finest conceivable aquatint grain, is perceptible on close examination. The process, whereby the printing surface is obtained, is very ingenious, as in Albert's process the prints are obtained from a plate of glass coated with bichromated gelatine, which by photographic treatment has become insoluble in varied degrees proportioned to the action of light, but the method of producing the printing surface is quite different from any former process. Herr Obernetter thus describes his operations:

"I coat a sheet of patent plate glass with a solution of gelatine, albumen, sugar, and bichromate; dry it, and expose to light under a negative. I then dust the plate over with powdered zinc, in the same manner as in the preparation of photo-enamels. The plate is now heated to a temperature of 150° Reaumur, or exposed to light until the whole surface of the film has been rendered insoluble.

"Before printing, I etch with dilute muriatic or sulphuric acid. By this operation the parts of bichromated gelatine covered with zinc are rendered, by the formation of hydrogen, susceptible of attracting water to a greater or less degree, while the other portions, upon which no zinc has settled, are capable of receiving a fatty ink. The printing is then proceeded with in the same way as with a lithographic stone."

The results which I have seen are sufficiently fine to justify the hope that this process will take very high rank amongst the methods of photo-mechanical printing; and the inventor is still engaged in experiments, and hopes to produce still better results.

Lichtdruck.—I have a conviction that for absolute perfection of gradation and similarity to the best quality of silver prints, no other photo-mechanical printing process can ever compete with Woodbury's method of photo-relief printing; but I apprehend

that in an enterprising country like America all photo-mechanical processes, in fact all processes which promise labor-saving and rapidity of production, must possess pre-eminent interest, and I make no apology, therefore, for constantly referring to these processes whenever fresh information regarding them comes under my attention. M. Leontytch, of Leipsic, has recently issued a little work on this subject, which, by the way, although only a small pamphlet, is charged fifteen shillings, or in round numbers nearly five dollars greenbacks. Much of the detail of Lichtdruck operations which it gives has already appeared in your pages; but there are a few points it may be interesting to refer to. After the plate has received its first coating, exposure, washing, and drying, it receives its second sensitive coating, and is exposed under the negative in diffused light. The progress of printing should be inspected through the back of the frame, when only the more prominent outlines will be visible, and the action of light has then gone sufficiently far when every detail in the opaque parts becomes visible. Taken from the frame, the plate now undergoes an operation upon which it is said the whole secret of success is based, and without which it is impossible to produce a serviceable printing plate; it is placed upside down, upon the cloth-faced board before mentioned, and exposed again to light from the reversed side until the highest lights only remain distinguishable. This has the effect of hardening the film throughout, and rendering it firmer and less absorbent of water. Finally, the plate is washed, by a yellow light, in a water bath, to remove any soluble chromate, and placed to dry upon filter paper.

The dried plate, previously to rolling up with lithographic ink, is placed for five minutes (face uppermost) in a shallow dish containing a 25 per cent. solution of glycerine in water; it is then fixed up with a suitable backing in a lithographic press, wiped over lightly with a soft sponge moistened with a few drops of linseed oil, and next with another slightly dampened in water, after which it is rolled up carefully with an exceedingly soft roller, such as would be used for chalk drawings. The printing is

conducted in the ordinary manner, the paper used being dense and smooth, and not previously dampened, as is the case in lithographic printing.

Standard Sizes of Photographic Plates.—A point of some interest to photographers has recently been brought under my attention by Dr. Liesegang. He points out that the standard sizes of plates is different in all countries, and that no systematic series of proportions prevails in any country.

The original sizes of Daguerreotype plates for portraits, fixed in France, on I believe a purely arbitrary basis, were the whole-plate, half-plate, quarter-plate, one-sixth-plate.* The terminology of these sizes is still retained, and for small sizes still indicates a standard. In larger sizes, however, a bewildering variety in proportion has gradually acquired position in different countries.

Some months ago Dr. Liesegang proposed to remedy the discrepancy which existed, causing much inconvenience alike to photographers and photographic manufacturers, and at the same time aimed to introduce a definite system of proportion in the various sizes. Adopting the five by four plate as a standard of symmetrical proportion, he proposed to maintain that relation between height and breadth through all the plates. The result would be that in all cases the height of the plate would be just one-fourth more than its breadth: thus a plate eight inches broad would be ten inches high; one ten inches broad would be twelve and a half high; one twelve inches broad would be fifteen inches high, and so on in proportion. In order to secure universality, and so promote the facilities for international trade in

* The sizes thus designated were as follows:

22	by	16	centimeters,	or	about	8 $\frac{3}{8}$	by	6 $\frac{1}{4}$	inches.
16	"	12	"	"	"	6 $\frac{1}{2}$	"	4 $\frac{3}{4}$	"
11	"	8	"	"	"	4 $\frac{3}{8}$	"	3 $\frac{1}{2}$	"
8	"	7	"	"	"	3 $\frac{1}{2}$	"	2 $\frac{3}{4}$	"

These sizes were, with slight modifications and additions, adopted in England and elsewhere. In America some of the modifications were curious: the half-plate was, for instance, 5 $\frac{1}{2}$ by 4 $\frac{1}{2}$ inches. A ninth size was subsequently generally adopted.

cameras, mounts, frames, and other belongings of photography and photographs, Dr. Liesegang proposes that the standard sizes should be based on the metrical system of measurement, which is now adopted on the Continent generally, and also largely in this country and in America in scientific calculations.

Whether the proportion here suggested is the best which can be adopted is open I think to discussion. Personally I should prefer a plate still less square in its proportions. Instead of the height exceeding the width by one-fourth, I should have preferred it to exceed the width by at least one-third. The chief defect, in point of proportion, which characterizes the present standards is, that in some cases the form is already too square.

Another important consideration in relation to fitness in size is the difference between the proportions suitable for portraiture and those for landscape photographs. As a rule, the best proportion between the length and breadth in the latter is not the same as for portraiture. Nothing is more clumsy-looking, nothing less natural-looking, than a square landscape. The eye naturally, except under special circumstances, embraces a much larger proportion of a scene laterally than vertically, and since the introduction of wide-angle lenses into photographic practice, the production of pictures very much longer in proportion to their height than the usual portrait plates has become a favorite custom, which would not readily be abandoned by landscape photographers; and hence any proposed universal system must make provision for a series of sizes of a character which has, with good reason, acquired popularity. The question which affects the convenience of cutting up the photographic sheet will also in any new scheme require consideration, and may easily be arranged so as to secure greater convenience and less waste than prevail with the sizes at present in use.

The subject is I think an interesting one, and photographers are indebted to Dr. Liesegang for raising the question. I subjoin the scale of proportions he has proposed, and which has already received the adhesion of some German firms. The sizes are:

10 x 8 cent.	35 x 28 cent.
12½ x 10 "	40 x 32 "
15 x 12 "	45 x 36 "
20 x 16 "	50 x 40 "
25 x 20 "	60 x 48 "
30 x 24 "	100 x 80 " etc.

The firms which have adopted these sizes find that they work well. A plate of 60 x 48½ in. may be cut into the sizes of 45 x 40, 40 x 32, 30 x 24, 20 x 16, 15 x 12, 10 x 8, without any loss; and into the other sizes without the least possible loss. The plates are called by their height only—i. e., a plate 30 x 24 is called a thirty-centimeter plate, etc.

Carbon Eburneum Photographs.—I inclose you one or two examples of a pretty application of Mr. Johnson's carbon process. It involves no especial novelty beyond the use of the carbon image in place of the collodion transparency in producing eburneum pictures. The pigmented paper is sensitized and exposed in the usual way; soaked for a few seconds in water; then attached to a plate of collodionized glass after Johnson's method; developed; washed; and finally coated with a layer of gelatine containing oxide of zinc in suspension. When the latter is dry, the whole is removed from the glass, and you have the charming picture, an example of which I inclose. I may observe that Mr. N. K. Cherrill describes the operation in detail in my *Year Book of Photography*.

Platinum Toning.—On some future occasion I hope to enter into some interesting details of the use of platinum for toning as a substitute for gold. Perhaps no finer tone can be desired for most purposes than that secured by a good gold toning process, but for purposes where a pure neutral or warm black is preferred to purple, platinum would be found valuable. One grain of bichloride of platinum in ten ounces of water will be found sufficient. The solution should be neutralized with carbonate of soda, and then slightly acidified with nitric acid. This will tone admirably. I shall have more to say on this subject on a future occasion.

The Practical Value of Dry Plates.—It is curious that, notwithstanding the fact that

dry-plate photography is actually older than the wet process itself, it has not yet acquired any certain status or recognition. The wet collodion process is the only form of photography which is now universally practised and trusted. Individual operators attain high proficiency and great success in the practice of special processes, which they have often described with minuteness, but others, following the instructions with apparent precision, often fail. Perhaps the highest success has been secured by one of the oldest dry-plate methods—the collodion-albumen process. Mudd and others in this country, Ferrier and others in France, have produced some of the finest examples of the art by this process. The gum process, which, as practised by Mr. R. Manners Gordon, has produced absolutely the finest dry-plate pictures I have seen, is, in its main features, a very old process. The newest dry process, and, in many respects, the most philosophical also—I mean the collodio-bromide, except in very few hands, has not been successful. I have seen some very fine landscapes by Mr. Carey Lea by it, and my friend, M. de Constant, in a letter to me the other day, speaks in exceedingly high terms of some other examples by Mr. Lea. But, as a rule, experimentalists have failed in employing this process. With the exception of the Liverpool men, amongst whom it originated, I know of none who have succeeded in any special degree in this country. It is scarcely surprising, in the face of such facts as I have mentioned, and also of the fact that some who write most dogmatically on the subject never produce anything presentable at all, that every now and then we hear laments on the untrustworthy character of dry processes. A recent article by Herr Moll, in a German journal recently, takes up this position, and institutes a comparison between wet and dry methods, very much to the disparagement of the latter.

NEVER expect your printer to make up the faults of your negative in printing. Good negatives always, be assured, make the best prints.

THE COLLODIO-BROMIDE PROCESS.

BY M. CAREY LEA.

MANY persons, I am told, are prevented from trying the collodio-bromide process from the fear of having their work spoiled by using an unsuitable cotton. It is certainly true that without a good cotton, nothing can be done, but I am inclined to think that these cottons are not as scarce as I supposed. The only two experimenters, in this country, who have written to me as to the result of their trials, used cotton which they chanced upon in their respective cities, and both are extremely pleased with the results. Success came easily in both cases, and at once, and both say, without hesitation, that the process is at least as rapid as the ordinary wet process; as to which they are fully competent to judge. The cotton that I have used has been made for me by Mr. Peter Parys, 617 Hallowell Street, Philadelphia, who will furnish it to such as may want. From specimens of work shown me by each of the other gentlemen, I should judge that their cotton was at least equal to mine in excellence.

I should, therefore, recommend all who may be disposed to work this process, to procure several specimens, three or four, of cotton from different sources, asking always for the *most intense*, and to make up a few ounces of collodion from each. The following formula will be found a good one; it is exactly the same as that which I have published before, except that it is a little more dilute:

Alcohol (pure and strong),	. 3 ounces.
Ether (concentrated),	. 5 “
Bromide of Ammonium,	. 12 grains.
Bromide of Cadmium,	. 60 “

It is best to use the cadmium salt from ounce bottles, kept well corked. Many of the makers seal them up with beeswax; this is the best way, as then the bromide of cadmium is kept from the air and remains in transparent needles. If in any other condition, it contains an indeterminate and variable amount of water, and when used in any other form than that here mentioned, it will lead to confusion and mistakes.

The specimens having been prepared, are to be set aside for two or three weeks in a bright, warm room, and if the sun rests on the bottles for some hours daily, so much the better.

When wanted for use, add 2 drops aqua regia to the ounce, and sensitize with nitrate of silver in the proportion of 14 grains to each ounce, grinding it finely and dissolving it with the aid of heat in $\frac{1}{4}$ ounce of alcohol for each 14 grains. (The nitrate of silver is reduced in proportion to the reduction of salting, but still maintains a large excess over what is needed to equivalent the bromide.) The aqua regia is made by mixing one part of ordinary nitric with two parts of ordinary muriatic acid, and setting in a moderately warm place until the mixture becomes deep orange color. It keeps indefinitely, if the bottle be securely stoppered. If this addition be neglected or overlooked, *every plate will fog*, with perhaps only traces of an image. This treatment is that on which everything turns. Until, after many experiments over a period of months, I discovered this mode of operating, there was always an uncertainty as to the results: with it the negatives are brighter and cleaner than wet plates.

If intending to make the plates in the evening, sensitize very early in the morning; if intending to coat in the morning, sensitize the evening before, allowing about twelve hours before using. After pouring the hot solution of nitrate into the collodion, shake up well *at once* for four or five minutes. Another shaking in the middle of the morning, and another a couple of hours before using, will be sufficient. Filter through a fine linen filter with a bit of clean sponge in the neck of the funnel. Run an edging of India-rubber, dissolved in benzole, round the plate; this is essential.

Coat the plate rapidly; as soon as set throw into a pan of water, take out as soon as greasy marks are gone, and plunge into pan of preservative (see previous papers). Five minutes in the preservative is enough, or three to six. The best drying is in a drying-box over sulphuric acid, but any mode of drying will do that is suitable for any other process. The plates may be rested against a tin can of hot water, which will

not injure them even if it is so hot as actually to boil.

An essential point in drying any plates by heat, which I have never seen in print, is that they should drain five minutes or so before placing in the heat. To a neglect of this precaution I have traced surface-markings of a very annoying and previously inexplicable character. With this precaution they disappeared at once. The precaution increases in importance with the degree of heat that is to be employed.

DEVELOPMENT.

The development is always a critical matter in dry plate work, but with these plates very easy and simple. I have lately traced out a most curious fact which has explained anomalies previously very perplexing.

It is that the question whether or not bromide will be necessary in the development, depends to a large extent upon the cotton used. That is, two specimens of cotton, each giving excellent results, may, when treated in exactly the same way, made at the same time, kept equally long, sensitized together and passed through the same baths, exposed and developed together, may the one absolutely need bromide in the development, and the other do better without it. I have tested this fact too carefully to be in any doubt about it.

Consequently it will always be best to use bromide until it is found to be unnecessary. I estimate that the use of bromide entails an increase of exposure of one-third. If thirty seconds be right without bromide, forty will be needed with it. But as there is little danger of over-exposure with these plates, it is never necessary to calculate closely, but best to give enough to be sure, especially if there be shaded foliage. This last difficult feature cannot be mastered so well by any other process that I have ever tried, as this which I here describe.

For a $6\frac{1}{2} \times 8\frac{1}{2}$ plate, pour into a pan just large enough to carry it,

Water,	. . . . .	4 ounces.
60-grain sol. Bromide of Potassium,	. . . . .	$\frac{1}{2}$ drachm.
80-grain sol. Carbonate of Ammonia,	. . . . .	$\frac{1}{2}$ "
60-grain sol. Alcoholic Solution Pyrogallie Acid,	. . . . .	$\frac{1}{2}$ "

These are to be added in the above order, mixed well by agitating, and the plate slipped in. Where a full exposure has been given, it will be well not to add the whole of the carbonate of ammonia at once, but a few drops at a time. With a full exposure, the development is quite as rapid as that of a wet plate. No previous washing or moistening with alcohol is necessary. If the plate has had a good, full exposure, it will come up to printing density in this bath in two or three minutes. If it does not, it will only be necessary to add as much more solution of carbonate of ammonia as already directed. Lift out the plate, add the solution, mix well by agitating, and return the plate.

The dirty work of re-developing with acid pyro and silver is never necessary. If it were desirable, plates with double or treble density could be easily got; density never presents any difficulty if the cotton is good.

But these plates, like almost every other sort of dry plates, need backing to give the best results, especially to show clean, sharp foliage against the sky. For this purpose, after many trials, I have settled down to a mixture of equal parts of Spanish brown, of the best quality, powdered gum arabic, clean and pure, from a reliable druggist, and powdered white sugar. Mix up and apply with a bristle brush. Try first upon a bit of glass and let dry; if it scales off, there is too little sugar, but up to this point, the less the better; use no glycerine. Put on pretty thick, and wipe off just before developing with a wet sponge. It is worth while *always* to use this backing. I back my plates as soon as they are out of the preservative bath, and let both sides dry together. But this cannot well be done if the plates are dried by heat, as the backing will run down in streaks.

One final and important hint remains. If the plates, just after coating, show a tendency to mottling of the film, thin the sensitive mixture, *not* with alcohol or ether, *but with plain collodion*, which must be made of the same or analogous cotton. This should be kept on hand, filtered bright, for this purpose. The advantage is, that although alcohol or ether will also cure

mottling, the cure lasts only for a plate or two, then the trouble returns.

OUR PICTURE.

Our picture this month is another variety of the "Rembrandt" or "shadow" picture, and together with the one in our last number will bear study and imitation. At the Cleveland Exhibition this class of pictures predominated in a measure, and some very fine effects indeed were there.

We think they must become very popular if you will but educate your patrons to them, and to do this you must make the best you can. You now have two good examples before you. The rest of the story is told by Mr. Baker in his letter, which we append:

"In presenting this picture to the subscribers of this magazine, I cannot, even at the risk of being egotistical, refrain from congratulating them, my co-laborers, on the happy success which has marked the introduction of the so-called Rembrandt effects, which a year ago I was fortunate enough to make to you.

"My original idea has been followed by a thousand photographers, and with many ingenious variations.

"The thought and study necessary for the mastery of the effect have furthered the knowledge of our resources, and emancipated us from the method of lighting which had become painfully conventional.

"The taste of our customers is cultivated with our own, and they are decidedly less afraid of a shadow than they were.

"One word to a certain class of critics who do not seem to apprehend that a profile in Rembrandt is an *effect*, rather than a portrait, and that the sharp lights and heavy shadows are, in this view of the case, perfectly legitimate art.

"Photography, it seems to me, is peculiarly fitted to present a passing thought, a special characteristic, the momentary suspension of a fugitive action, and much less adapted to give the sum total, that complete embodiment of the whole person, which we justly look for in an oil portrait or marble statue.

"Our means are rapid, the results cheap, many aspects of the subject can be quickly caught. What the art lacks in completeness is thus made up by variety. It is enough if each mood be happy, and we should accustom our sitters not to expect the grandeur of an historic portrait in the few square inches of a photograph.

"The present picture is an endeavor in accordance with the above line of thought. A beautiful face is placed entirely in the shadow; the light, coming from behind, floods the hair and falls over the shoulders. The delicate reflections down the profile are from a white screen a few feet off. The subject was posed as for a Rembrandt, a variety of which it is, only the face was turned away from, instead of towards the light.

"Since writing the above, a letter from our editor asks for the photographic data of this print.

"The light was sky, without side-light. The lens, 3 B. Dallmeyer, diffusion of focus. The time of the year, last September; the day, cloudy. The negatives were timed twenty seconds.

"The collodion was two years old, made of

Alcohol,	1/2 oz.
Ether,	1/2 "
Iodide of Ammonium,	2 grs.
Iodide of Cadmium,	4 "
Bromide of Ammonium,	2 "
Cotton,	6 "

DEVELOPER.

Protosulphate of Iron,	1 oz.
Double Sulphate of Iron and Amm. 1/2 "	
Acetic Acid No. 8,	2 "
Water,	16 "

"The negatives were cleared with cyanide, and strengthened with sulphuret of potassium.

"The paper is that of Trapp & Munch, floated half a minute on the following silver bath: A concentrated solution of silver in water is divided into halves. One-half is precipitated and cleared with ammonia; the other half is then added, and the whole rendered almost neutral with nitric acid C. P.; the solution is then diluted to 40°, and may be, when in use, allowed to vary between 35° and 50°. The strength is maintained by adding from a concentrated solution prepared as above. The T. & M. paper seems to have absolutely no reaction on this bath, only by abstracting silver; the solution neither becomes more or less alkaline.

"When dry, the paper is fumed. The toning is best done with a warm bath, *very* alkaline, with bicarbonate of soda (that used for cooking). The hypo. was 1 oz. to 8 oz. water; time, 5 to 8 minutes.

"After mounting, the prints were treated with Salomon's enamel. If the surface of any of these is at all disturbed at any time, a very light polishing with a soft cloth will at once restore it bright and perfect.

"W. J. BAKER.

"BUFFALO, N. Y., June, 1871."

Editor's Table.

HOW TO BECOME A MEMBER.—Photographers who wish to be identified with the National Photographic Association, and to share its benefits, may do so by applying to Edward L. Wilson, Permanent Secretary, Philadelphia, Pa. Remitting \$4,—\$2 for entrance fee and \$2 for dues up to June, 1871,—and certificate of membership will be sent. Come, *now*, grow with its growth and share the honors.

DID WE PROMISE TOO MUCH?—We predicted and even promised a great deal to those who would attend the Cleveland Exhibition. Did we promise too much? We never saw a better at-

tended set of men together than were the photographers there.

N. P. A.—The Executive Committee will hold a special meeting at 36 Park Row, *New York*, on Wednesday, July 6th, at 4 P.M. Members please be present to transact special business.

W. IRVING ADAMS, Chairman.

EDWARD L. WILSON, Secretary.

THE SHAW PATENT.—Since he was beaten in the suit against Mr. Lovejoy, Mr. Shaw has modified his claims again (third time), and obtained a reissue of his patent, June 14th. Let

not our readers be frightened, however. The fact of his applying for a reissue precludes him from collecting anything for supposed or real *past infringements*, and also shears him of all power to compel any one to use his patent under penalty of prosecution. All Jehyleman Shaw now has, is a reissued patent for an *apparatus* constructed as has been described in our pages, which he wants to sell. It is optional with you whether you buy it or not. He cannot compel you. Use your old tub or tank as long as you please, and he cannot harm you. Do not let agents and others frighten you into any arrangement against your will, for they have not the power to harm you in the least. We received a copy of the reissue just before going to press, and will explain further next month. Meanwhile, be not afraid.

THE LOCAL SECRETARY.—No one who has not been through its labors knows what a laborious task is the Local Secretaryship. Mr. Ryder seems to have been made for that post, and did admirably in every way. Of course there are always some who grumble, but if they have cause let them not lay it to any oversight of Mr. Ryder. He forgot nothing.

THE PHOTO-CRAYON PRIZE MEDALS, awarded for the best photo-crayons at the Cleveland Exhibition, were given to Messrs. A. Marshall, Boston (gold); Suddards & Fennemore, Philadelphia (silver); and W. L. Germon, Philadelphia (bronze). A very handsome show of nearly one hundred pictures was made. Messrs. Lambert & Alden show some nice testimonials in their new advertisement.

PORTRAITS OF DR. VOGEL.—Mr. J. F. Ryder has favored us with an admirable 8 x 10 Salomon style portrait of Dr. Vogel, which is as excellent a likeness as it is a good photograph. Dr. Vogel sat for the negative at the special request of the Association, and we are rejoiced that it is such a success. Mr. Jno. Carbutt, Chicago, has also secured a fine stereoscopic negative of Dr. Vogel, which he promises to print by Woodbury's photo-relief process, and to sell copies for the benefit of the Relief Fund.

EXCHANGE OF PICTURES.—Our stock of cartes ran short at Cleveland, but we have now replenished, and are willing to redeem our promise to exchange with all who were there.

MESSRS. KILBORN BROS., Littleton, N. H., have favored us with a series of admirable views of Fairmount Park, Wissahickon, etc., recently taken. For natural beauty, no park in the world

excels Fairmount, and, chosen with an artistic eye as they are, these views are very charming.

MESSRS. SUDDARDS & FENMORE, 820 Arch Street, Philadelphia, have an admirable carte negative of E. Y. Bell, Esq., made during his researches for light on the "Waste" case, copies of which can be had.

GOOD NEWS.—Prof. Henry Morton, Ph. D., the eminent lecturer on light, chemistry, etc., has already been secured to deliver two lectures before the National Photographic Association, in Philadelphia, next June. This is taking time by the forelock, but that is necessary, in order to succeed in any undertaking. We mean that the photographers shall have a grand treat when they visit Philadelphia, and no one can contribute more to it than Prof. Morton. He leaves Philadelphia in July to assume the Presidency of the Stevens Institute, Hoboken, N. J., which he is yet to see built, superintending the work himself.

RATHER LARGE.—Our types made us say in our last that some of the hailstones that fell in Philadelphia last month were 7 inches in diameter. We meant circumference, and that was plenty large enough for comfort.

OUR RED COVER last month did just what we intended it should do, *i. e.*, *attracted attention*. That was all it was put on for, because we wanted to have rather a holiday appearance, on account of the coming jubilee at Cleveland. The new color, however, raised all sorts of conjectures. Some condoled with us on our bad taste in making the change, but the best one was, a Western subscriber who "supposed it was a hint to pay up, as his subscription had expired!" One good thing about it, it contains a complete catalogue of the American Optical Company's apparatus and of Ross's lenses, and the red cover will enable you to find them easily when you need to refer to them.

HAIL-STORM IN MASSACHUSETTS.—Mr. F. H. Houston, Pittsfield, Mass., informs us that a very severe hailstorm visited that city and the country for 60 miles around, on June 20th, demolishing every glass-house in the vicinity, which, with the torrent of rain that followed, caused great loss to the photographers.

SIGNOR ANT. MONTAGNA, Mesagne, Italy, will publish semi-annually a "*Universal Photographic Review*," beginning June 1st, 1870, which is to be accompanied by photographs.

MR. H. G. FETTER, Logansport, Ind., a few hours after the resolution had passed at the Cleveland meeting to adopt a trade-mark for the work of the members of the Association, presented us with his card with N. P. A. thereon. We were glad to see the idea adopted so soon. Mr. Fetter is one of the live men of the profession, and we hope the time will soon come when both he and his co-laborers will be proud to see N. P. A. stamped upon their work.

OVER AGAIN.—Our readers get half a number (16 pages) over again this month. Several articles laid over. We hope they will be active in trying to get us new subscribers. Back numbers can be had from January. Please remember us when making your summer tour.

THE SPHYNX.

Answers to Last Month's Queries.

1. A bath after it has been worked for some time, will contain an excess of bromide and iodide of silver, which form double salts with the nitrate of silver, crystallizes out on the immersed plates, and, being detached by the subsequent manipulations, leave transparent spots called by photographers "pin-holes." The best way to remedy this disorder is, to pour the bath into an equal quantity of pure water, and evaporate to its proper strength. The water decomposes these double salts, precipitating iodide and bromide of silver, and the weaker the solution the more complete is the precipitation. If a portion of water is added to the bath a precipitate is thrown down, but the solution has been reduced so little in strength, that, on being shaken it is redissolved, and it is not until a considerable quantity has been added that a permanent precipitate is produced, less, however, in quantity than if the process had been reversed, for when the bath is added to the water the water is in excess until the last portion of bath has been added, and the solution is so weak that but little of the precipitate is dissolved again.

2. When ammonia is added to a solution of nitrate of silver, nitrate of ammonia is formed, which remains in solution, and oxide of silver is precipitated; on the addition of more ammonia the oxide of silver enters into chemical combination with it, is dissolved, and the result is a solution of the double salt argento-nitrate of ammonia, or, as photographers call it, ammonio-nitrate of silver.

3. When a bath is boiled the ether and alcohol are driven off, the organic matter is decomposed by the heat, and an insoluble precipitate

containing silver is thrown down. The bath should be neutralized before it is heated, as the presence of acid retards the precipitation.

Questions.

1. What is the real effect of any bromide in collodion?

2. What is meant by solarization—the cause, cure, and prevention?

3. What chemical means are there of removing a slight fog (chemical fog, of course) from the negative?

4. In making developer, is the effect the same in the following: whether the developer be made with a strong iron solution with much acid, or a weak iron solution with less acid?

5. With a bath, collodion and developer in perfect harmony, you dip a plate in another bath (new and iodized and of the same strength) and expose the same on some object, the high lights come up very intense, with no detail in the shadows, what is the cause and the cure?

6. What is the present theory of the latent image? Is it a chemical alteration of the molecular arrangement, or is it a partial reduction of the iodide and bromide of silver into metallic silver?

7. Why does a prolonged development cause fogging?

8. What is a good toning formula for a rich brown-black?

9. What will prevent a toning solution from turning red?

ANSWERS TO CORRESPONDENTS.

FERROTYPY, Rock Island, Ill.—See proceedings of the Ferrotyping Society, Philadelphia, a month or two ago.

A. ST. CLAIR, St. Paul.—The "Porcelain Photograph" is a species of mezzotint, and the patentee is G. E. Fowx, Baltimore, whose specifications were published in our last January issue, page 10. It is simply printing through two negatives instead of one, and is quite troublesome.

H. L., JR.—As we understand it, all using solar cameras without Woodward's stamp thereon, are liable to be called upon for damages. Don't worry, however, until you are called upon. When you are, make the best bargain you can, and pay peaceably. The patent expires in less than a year, we believe. It may or may not be extended.

JAS. H. TATMAN, Connersville, Ind.—See answer above. Your posing is good; print underdone.

Messrs. Kilburn Bros., and so on. In this city he is ours.

He will sail for Europe in a few days, and doubtless carries with him the good wishes and warmest regards of the whole photographic community of America.

He had several invitations to lecture while here, and more than one offer if he would make this country his permanent residence.

In St. Louis Dr. Vogel was very enthusiastically received and entertained by the photographers. Among other places he visited the Iron Mountain below St. Louis, a mountain four hundred feet high, and almost wholly of iron ore. Dr. Vogel suggestively remarked that there was "no possibility of the St. Louis photographers running out of *developer* very soon!"

On Thursday evening, June 23d, a grand reception was given by the St. Louis Photographic Society to Dr. Vogel, at the rooms of John A. Scholten, Esq.

The President, A. J. Fox, Esq., opened the meeting with the following address.

"Gentlemen of the Photographic Association of St. Louis, members of the fraternity, and fellow-citizens, it affords me great pleasure, in behalf of the photographic fraternity of St. Louis, to introduce to you to-night, one whose name and fame is as familiar to you as household words. One whose writings and researches upon photography you have all read with so much interest and delight. He is among us to-night by invitation, and I now take pleasure in introducing to you my esteemed friend Dr. Herman Vogel, of Berlin, Prussia. As Mr. Fitzgibbon is the oldest photographer now in the West, I will take the liberty to call upon that gentlemen to extend to Dr. Vogel the words of fellowship, friendship, and a cordial welcome to our beloved city."

"MR. PRESIDENT: In rising to welcome Dr. Herman Vogel, of Berlin, I am afraid you have called on one unfitted for the task, and I feel my incompetency on this occasion to do justice in addressing our distinguished guest, with words of welcome to our great city of the West. I was not brought up in the school of oratory or declamation, but in the laboratory of our beautiful art; but what I say to our distin-

guished friend to-night, comes from the bottom of my heart. Yes, sir! I welcome you, Dr. Vogel, thrice welcome you, in the name of the photographers of this city and the far West, and thank you for honoring us with your presence to-night; for it is an honor, a great honor to have one of the brightest lights of photography that is not overdeveloped, to cross the deep and briny ocean, and come away from the fatherland to the land of progress and liberty, and shine among us even for a brief space of time. It is with pleasure that my brother photographers now meet face to face with you, whom they have so often heard of, and more frequently read of. We have studied your writings on the advancement and progress of our art, and I assure you they have been beneficial to many of us. Mr. President, we come here to welcome and honor our guest as he has honored us, and to use a Western phrase, 'we intend to show him round' our great and growing city, which in time will be the metropolis of the land of Columbia. Yes, sir! and when you return to your native land, and there in the quiet moments of reflection, or in the outbursts of your own heart you think and talk of the friends left *behind you*, we hope the memory of this night will never be forgotten."

Dr. Vogel then arose and responded as follows:

"MY FRIENDS: From the bottom of my heart I thank you for the hearty welcome and kindness shown to me everywhere at your hands. I am only sorry that I cannot reply to your kind words in your own language so well as I wish to do. I will therefore ask your indulgence to allow me to give vent to my feelings in my native tongue, and ask my German friends to translate it to you.

(Then he proceeded in German as follows:)

"America is the country on which we in Germany have been looking with admiration these many long years. Yes, this admiration grew into enthusiasm when we witnessed a struggle that threatened to divide this great republic; and it affords me a great deal of satisfaction to say that all my

German countrymen, here as well as over the ocean, took a lively interest in that combat. We sympathized heartily with you, gentlemen, and not only in war, but in time of peace, in literature and arts have you always engaged our undivided attention and sympathy. When I came over here, I expected to see a great deal, and I take great pleasure in saying to you that my highest expectations have been by far surpassed. When I return to my native country, I shall be able to say that four weeks' sojourn in this country afforded me more opportunities of observation and instruction than any four years heretofore. Unfortunately we are but too frequently led to form wrong opinions concerning America and the Americans, by superficial, sensation newspaper articles, which are proven to be fallacious upon closer *personal* acquaintance. The practical turn of mind of the Americans developed the treasures of science, and many inventions were put into practical use by them. A result of this practical tendency is the present state of photography in America. Energy and a free and unimpeded pursuit of art has not failed to tell on the development of photography here as well as in Europe, and in Germany in particular. An intimate and cordial intercourse has sprung up of late between America and Germany, much to the benefit of our art and its followers; and I shall feel amply rewarded if my professional brethren think that my endeavors to contribute, little though it may be, to a firmer union between the two countries, and material advancement of our art, have not been quite devoid of success.

"I thank you, gentlemen, for the kindness and indulgence with which you have listened to my few remarks, and hope that at no distant time I shall have the pleasure to welcome some or *all* of you in my native country!"

For this translation we are indebted to the kindness of Mr. Robert Benecke, who adds:

"Thus the week which Dr. Vogel had consented to stay with us drew to a close, and sorry we were to see our congenial and warmhearted little Doctor recross the father of the waters to visit other parts of our great country. May he be assured to have

left a host of warm friends behind, who would be only too glad to see him come back some day and spend his days in their midst."

THE EXHIBITION

OF THE

National Photographic Association at Cleveland—Our Picture.

HAVING in our last number given our readers a pretty full account of what transpired at the *business* meetings of the National Photographic Association in Cleveland, let us now give a few details concerning the grand Exhibition.

It was held in the Central Skating Rink, the floor of which is 90 by 250 feet, and which was profusely decorated with flags and evergreens festooned fancifully all around. In the centre, hanging from the roof, was a painted wreath, to which was suspended the truthful motto: "*Elevate your art and it will elevate you.*" At the rear end of the hall was a huge scenic background, on which the different emblems of photography were painted and grouped, with the names of Niepce, Daguerre, Talbot, etc., the whole encircled by the following words in huge letters: "*Let your light so shine that others may see your good works.*" All of this gave the immense interior a very tasteful and beautiful appearance.

The floor being cleared of the debris of a fair which had but just closed, immense uprights were erected at certain distances apart on each side of the hall, running towards the centre and thus forming alcoves, each one being in a light almost equally favorable. On these uprights the pictures were hung, under the supervision of the Local Secretary, Mr. J. F. Ryder, and the Committee of Arrangements, Messrs. Albert Moore, W. Irving Adams, John R. Clemons, V. M. Wilcox, and Edward L. Wilson. The committee occupied nearly three days and three nights in their work, and were supported by the valuable assistance of many of the photographers of Cleveland and by volunteers — photographers coming in daily to attend the meetings, etc., from all parts, all of whom promptly laid hold and helped all they

could, with a will. The scene was one of great activity and earnestness, and the result was, all things were in readiness at the appointed time, and the Exhibition was thrown open to an appreciative public on Tuesday evening as advertised.

Through the kindness of Mr. T. T. Sweeney, of Cleveland, who made the negatives, and of Mr. William H. Rhoads, of Philadelphia, who made the prints, and who has had to work night and day ever since to get the requisite quantity done in time, we are enabled to give our readers this month a view of a *good portion* of the interior as it appeared at the close of the Exhibition, though not the whole, as we desired. Owing to the peculiar arrangement of the uprights, a view from one end down the centre would not have made as satisfactory a view as the one we give, so, what was thought by several who were consulted to be the *best general view*, was selected, and the negatives made accordingly. Down the centre of the rink were rows of glass cases and tables, which were devoted to the display of apparatus, chemicals, lenses, etc., by the stockdealers, and which was very large and fine.

We annex a list of the exhibitors, as near as we could make it during continued interruption, and if we have omitted anybody we will be glad to add those omitted in our next number. Our list begins at the left hand going in, down that side to the stage, across the stage, up the other side, and then the centre of the floor.

On each side at the front was an immense pagoda (not shown in the picture), one being covered with splendid landscapes, portraits, and stereoscopic views by Mr. T. T. Sweeney, and the other by a large assortment of Braun's carbon views, exhibited by Messrs. Wilson, Hood & Co., Philadelphia. The latter were on the left of the entrance, and following them were the cases containing Messrs. E. & H. T. Anthony & Co.'s display, and articles and pictures by Messrs. Howell, and those whose names follow his in the list, up to the handsome display of Mr. William B. Holmes, New York. In the picture are plainly seen the solar enlargements by Mr. Albert Moore, including the gold medal prize print (the one of a

child, highest up, in the centre), the eighteen Steinheil lens pictures shown by Wilson, Hood & Co., the foreign pictures, which were all close together, and on the extreme upright the fine display by Mr. J. W. Black. On the left of the stage is Mr. Ryder's splendid exhibition plainly seen. The arrangement of the other side of the hall was precisely the same, differing only in the pictures, all of which are mentioned, we believe, in the list. We tried to let none escape us.

In the centre space, directly in front of the stage, Mr. John Carbutt, of Chicago, had tables erected, on which he continued to make prints by the Woodbury Photo-Relief Process during the whole Exhibition, always attracting an interested and delighted crowd; next to him Messrs. W. M. & C. C. Kohl & Co., Cincinnati, Ohio, had a large Stereoscopic Museum erected, and displayed a fine assortment of their Stereoscopes; next to them the Scovill Manufacturing Company occupied the space, and had several tables and cases of American Optical Company's apparatus, etc. Their display was very prominent; also the well-known furniture, accessories, head-rest, etc., by Messrs. Wilson, Hood & Co. The Cleveland dealers, Messrs. Robbins and Castle, made fine displays. The large Yosemite views on the right of the picture, front, were also part of Mr. Robbins's display, and next to these came Mr. Sweeney's pagoda, which he unfortunately left out of the view.

In the front room, second floor, where the business meetings were held, Mr. J. W. Black each evening gave a fine lantern exhibition of views on the coast of Labrador and all parts of this country. The group of members was shown by Mr. Black a few hours after it was taken. He used the electric light, which we shall presently describe in these pages. In front of the Rink, some distance, a huge screen was erected, and early each evening Mr. Black projected pictures on it to the delight of the outsiders, and thus won many into the Exhibition.

Here we close our record of the Second Annual Meeting and Exhibition of the National Photographic Association, yet we must not do so, until we have related one very pleasing incident. Saturday evening

precisely at ten o'clock the musicians began to play "Home, Sweet Home."

President Bogardus was standing on the main floor near the centre at the time. The first notes of that glorious tune told the photographers present, that their week of jubilee was at an end, and drawn by one common impulse they gathered around their president in great number and joined him in singing, Home, Sweet Home. There were full hearts then, and at the cessation of the music, the assemblage passed out, amid hand shakings, words of good cheer, and "Good bye! meet me in Philadelphia in 1871."

The day the negatives were made it was very dark and cloudy, and the Rink was not in favorable condition to photograph, but it was the only day the work could be done, and the best possible results were secured. They were made with a No. 3 \$40 Steinheil lens, of which Mr. Sweeney writes us: "For quick work and even illumination it excels anything I have ever used, and, although having on hand an abundance of lenses, I find I cannot do without it."

The prints were made, as we have stated, by Mr. William H. Rhoads, the new Local Secretary, on Messrs. Trapp & Munch's albumen paper, which, during the late hot and trying weather, Mr. Rhoads says "worked splendidly, and without discoloration."

LIST OF EXHIBITORS.

- ADOLPH BRAUN, Dornach, France. Carbon prints of Swiss scenery, game, flowers, and reproductions. Exhibited by Wilson, Hood & Co., Philadelphia.
- ROBINSON & CHERRILL, London, England. Composition pictures, colored. Exhibited by E. & H. T. Anthony & Co.
- M. GARCIER, Geneva, Switzerland. Panoramic views.
- W. R. HOWELL, New York. Enlargements colored, Albumen Photographs, Retouched and Cabinet Pictures.
- T. T. SWEENEY, Cleveland, O. Groups of the members of the National Photographic Association. Sold for Relief Fund.
- THOS. H. JOHNSON, Cleveland, O. Groups of the members of the National Photographic Association. Sold for Relief Fund.
- G. G. JOHNSON, Cleveland, O. Enamelled photographs.
- J. CREMER, Philadelphia, Pa. Large colored portraits on the new "hot-cast porcelain" glass.
- JNO. P. SOULE, Boston, Mass. Stereoscopic views and portraits colored.
- E. HERBRUGER, JR., Panama. Views of Panama.
- THOS. FIRTH, Hamilton, Bermuda. Views in Bermuda.
- R. H. FURMAN, Brazil, S. A. Views and portraits.
- WM. B. HOLMES, New York. Bierstadt's views of Niagara.
- A. H. HEMPLE, Philadelphia, Pa. Large pictures of locomotives, machinery, etc.
- A. MEYDENBAUER. Examples illustrative of photographic surveying.
- SHAFFNER & MOHR, Paris, France. Specimens on carbonate of silver paper.
- BENQUE & SEBASTIANUTTI, Trieste, Austria. Finely retouched enlargements.
- ALBERT MOORE, Philadelphia, Pa. Enlargements on plain and albumen paper, from the five prize negatives, and from negatives by J. C. Browne, J. Moran, B. L. H. Dabbs, Geo. H. Fennemore, O. H. Willard, and others, including a head 40 inches in length.
- JNO. R. CLEMONS, Philadelphia, Pa. Prints on his albumen and arrowroot paper.
- A. K. P. TRASK, Philadelphia, Pa. Fine ferro-types and photographs.
- CARL BORNTREAGER, Wiesbaden. Fine cabinets.
- H. GUNTHER, Berlin. Elegantly colored photographs of flowers.
- ABDULLAH FRERES, Constantinople, Turkey. Photographs of Armenian and Turkish women.
- A. LESAGE, Dublin, Ireland. Cartes of Irish ladies.
- KLOCH & DUTKIEWICZ, Warsaw, Austria. Cartes by J. K. Wolowsky, now of Philadelphia, Pa.
- GEO. B. AYRES. Chart of drapery, and photographs of the same.
- EDWARD BIERSTADT, Jersey City, N. J. Photolithographs by Albert's process.
- GEO. WASHINGTON WILSON, Aberdeen, Scotland. Cabinet and stereoscopic views. Exhibited by Wilson, Hood & Co., Philadelphia.
- WILSON, HOOD & CO., Philadelphia, Pa. 18 pictures made with the Steinheil lens, being a copy of an engraving, a landscape and a portrait made with each size lens, from No. 1 to No. 6, inclusive.
- M. GOUPILOFF & Co., Paris. A variety of prints by the Woodbury Process.
- WALTER WOODBURY, London, England. A variety of prints by the Woodbury Process.

- JNO. CARBUTT, Chicago, Ill. A variety of prints by the Woodbury Process.
- CAPT. LYON, Geneva, Switzerland. A series of 8 x 10 views in India.
- S. BOURNE, London, England. 8 x 10 views in the Himalayas and in Asia.
- W. S. PORTER, Cincinnati, O. Portraits in variety.
- ROMAIN TALBOT, Paris, France. Enlargements by artificial light.
- DR. H. VOGEL, Berlin, Prussia. Views of tombs, temples, etc., in Egypt, and photographs illustrating the effect of the distance from the lens to the subject.
- M. CAREY LEA, Philadelphia, Pa. Prints from collodio-bromide negatives.
- S. P. CHRISTMAN, Berlin, Prussia. Stereoscopic views, interiors, buildings, etc.
- F. GRASSHOFF, Berlin, Prussia. Fine cartes, etc., including a collection of 24 portraits of one young lady in as many positions.
- J. SCHAARWACHTER, Nijmegen, Holland. Views in Holland.
- CHAS. REUTLINGER, Paris, France. 11 x 14 carte and cabinet pictures from retouched negatives.
- ERNST MILSTER, Berlin, Prussia. Portraits of various sizes, from retouched negatives, and reproductions from oil paintings.
- H. KROHNE, Dresden. Stereoscopic views by collodio-albumen dry process.
- WILSON, Hood & Co., Philadelphia, Pa. Large display of stereoscopic pictures, including "Gems of German Life," by Loescher & Petsch, views by G. W. Wilson, A. Braun, W. England, F. Bedford; statuary by W. England; White Mountain views by Kilburn Bros., and Yosemite Valley views by "Heliosts."
- A. SALOMON, Paris, France. 8 x 10 portraits.
- ROBINSON & CHERRILL, London, England. 8 x 10 portraits.
- F. GUTEKUNT, Philadelphia, Pa. Untouched solar enlargements; large portraits from contact negatives; cartes, cabinets, etc., from retouched and untouched negatives.
- LOESCHER & PERSCH, Berlin, Prussia. A magnificent collection of genre pictures and portraits from retouched negatives, from carte to 11 x 14 size.
- T. EDGE, Preston, England. Rustic cartes.
- M. BURGESS, Norwich, England. Eberneum pictures.
- J. CARBUTT, Chicago, Ill. A variety of portraits, plain and colored.
- BURCHARD BROS., Berlin, Prussia. Photolithographs.
- J. W. BLACK, Boston, Mass. Portraits of many sizes, views on the coast of Labrador, interiors, groups, and landscapes.
- J. F. RYDER, Cleveland, O. A magnificent display of colored and India-ink pictures, of life and smaller size.
- W. S. PORTER, Cincinnati, O. Daguerreotype in sections, of Fairmount Water Works, Philadelphia. Made in 1848.
- F. L. STUBER, Bethlehem, Pa. Portraits in Salomon style, and stereoscopic "Gems of American Life."
- FONTAYNE & PORTER, Newport, Ky. Daguerreotypes of Cincinnati. Made in 1848.
- J. M. GREEN, Cleveland, O. Oil photographs.
- S. ROOT, Dubuque, Iowa. Large portraits from untouched and retouched negatives.
- R. L. ALLEN, Detroit, Mich. Landscape and interior views.
- H. H. COLE, Peoria, Ill. Solar portrait enlargements.
- J. LOEFFLER, New York. Portraits in "Rembrandt" and other styles, in variety.
- H. MERZ, New York. Cartes, 8 x 10, and other portraits, and several genre pictures.
- B. W. WESTON, Leetonia, O. Portraits.
- J. H. HALLENBECK, New York. Prints from H. J. Newton's coffee dry plates, printed and toned by the uranium and silver process, and also copies of Doré's drawings.
- A. BOGARDUS, 1153 Broadway, New York. Enlargements, cabinets, etc., in fine variety. Mr. Bogardus also very commendably mentions his employees, who, with his aid, produce his work, viz.: E. M. Howell, poser; Charles Hausrath, manipulator, and Jos. Fraunthal, printer.
- ARMSTRONG & RUDD, Saginaw City, Michigan. Cartes de visite in number.
- H. ROCHER, Chicago, Ill. Cartes and cabinets in all styles.
- H. L. Bingham, Kalamazoo, Mich. Large portraits.
- S. CROBAUGH, Cleveland, O. Variety of old daguerreotypes.
- F. A. SIMONDS, Chillicothe, O. An assortment of portraits.
- G. H. SHERMAN, Elgin, Ill. An assortment of portraits.
- S. M. FASSETT, Chicago, Ill. Interiors, porcelain colored by Mrs. Fassett, plain photographs, etc.
- UHLMAN & RIPPEL, St. Joseph, Mo. Enlargements, cards and cabinet size.
- C. H. RAVELL, Lyons, N. Y. Portraits in variety.
- SHELDON & DAVIS, Kingston, Ont. Portraits.

- J. A. MATHER, Oil City, Pa. Portrait in oil.
- H. G. SMITH, Publisher, H. WM. TUPPER, Photographer, Boston, Mass. A variety of copies of engravings and statuary, peculiarly lighted and toned.
- J. HOWARD, Cuyahoga Falls, O. Enlarged views on plain paper.
- LEE & EDMONDSON, Norwalk, O. A variety of portraits.
- D. R. CLARK, Lafayette, Ind. A variety of portraits.
- F. THORP, Bucyrus, O. Cartes, cabinets, &c., and some of his work made four years ago, to show his progress.
- B. F. BATTLES, Akron, O. 11 x 14 and card portraits.
- J. C. MILLS, Penn Yan, N. Y. Colored and plain work.
- WILLIAM KURTZ, New York. 8 x 10 and cabinet sizes from plain and retouched negatives, "Rembrandt style," etc., in fine variety.
- W. J. BAKER, Buffalo, N. Y. A fine variety of "Rembrandt" or "shadow" pictures, 8 x 10, and others; also exhibited several specimens from M. Adam Salomon, Paris.
- CRAMER, GROSS & Co., St. Louis, Mo. Enlargements, cabinets, and cards.
- J. D. CADWALLADER, Marietta, O. Enlargements, cabinets, and cards.
- GALLO W. CHESTON, Philadelphia, Pa. Portraits, various sizes.
- STARK & BARTON, Zanesville, O. Views and portraits.
- THOS. GAFFIELD, Boston, Mass. Photographs of leaves, ferns, feathers, etc., arranged in wreaths and mottoes.
- O. A. DOLPH, Erie, Pa. Solar enlargements.
- A. MARSHALL, Boston, Mass. Portraits in variety.
- J. LANDY, Cincinnati, O. A large assortment of portraits, strikingly lighted in "shadow" style, and cartes, showing the expression of children during picture-taking.
- WALTER C. NORTH, Utica, N. Y. Cabinet portraits, and also photographs by Salomon and Reutlinger.
- A. D. BROOKS, Erie, Pa. Large photographs.
- FRANK BISHOP, JR., Watertown, N. Y. Portraits.
- Z. P. McMILLAN, Galesburg, Ill. 11 x 14 ambrotypes, and an album of out-door views.
- DRAPER & HUSTED, Philadelphia, Pa. Photographs of machinery.
- BENDANN BROS., Baltimore, Md. Large and small portraits.
- J. E. LARKIN, Elmira, N. Y. Colored porcelains.
- YOUNG & ROGERS, Washington, Pa. Large and small portraits.
- L. VAN LOO, Cincinnati, O. Large portrait, groups, and large photographs.
- B. E. HAWKINS, Steubenville, O. Oil and plain photographs.
- C. S. JUDD, Shelbyville, Tenn. Portraits and views.
- L. ANGERER, Vienna, Austria. Photographs made with Voigtlander lenses.
- C. MEINERTH, Newburyport, Mass. Mezzotints.
- J. R. GORGAS, Madison, Ind. Enlargements.
- J. A. TODD, Sacramento, Cal. Cabinet portraits.
- A. S. ROBBINS, Cleveland, O. Yosemite Valley views.
- WM. H. MOORE, Marion, O. Group of clergymen.
- J. H. OAKLEY, Ravenna, O. Cabinets and cards.
- F. M. SPENCER, Mansfield, Pa. Portraits.
- R. GOEBEL, St. Charles, Mo. Cabinets and cards.
- J. A. SCHOLTEN, St. Louis, Mo. Burnt-in enamels, colored.
- BROOKS & POTTER, Warren, O. Group of clergymen, portraits in oil and water colors.
- ANDREW PRICE, Cleveland, O. Solar enlargements, etc.
- T. A. BEACH, Delaware, O. Portraits, etc.
- SARONY & Co., New York. Cabinet portraits and large size.
- WM. C. NORTH, Cleveland, O. Portraits and enlargements.
- A. BISBEE, Daguerreotype view of Cincinnati, in six sections.
- THOS. T. SWEENEY, Cleveland, O. Large variety of stereoscopic and large views and portraits.
- A. E. ALDEN & LAMBERT BROTHERS. Sarony photo-crayons, by Suddards & Fennemore and W. L. Germon, Philadelphia; A. Marshall and Frank Rowell, Boston; McElroy, Providence, R. I.; Moffatt, N. Y.; W. C. North, Utica, N. Y.; Evans, Weaversville, Pa.; Richardson, Wakefield, Mass.; Wm. C. North, Cleveland, O.; A. E. Alden, Springfield, Mass.; Lambert and Sarony, N. Y., and J. Carbutt, Chicago, Ill.
- APPARATUS, CHEMICALS, ETC.
- E. J. FOSS, Boston, Mass. Improved screen.
- J. Q. A. TRESIZE, Zanesville, O. Dark-tent.
- H. W. IMMKE, Princeton, Ill. Dark-tent.
- J. A. ANDERSON, Chicago, Ill. Background frame.
- L. DUBERNET, New York. Fancy mats, frames, and passepartouts.
- E. & H. T. ANTHONY & Co., New York. Kurtz's background and reflector, gas drying stove,

dark-tent, graphoscope, cameras, chemicals, albums, stereoscopes, and photographic goods generally.

D. H. CROSS, Bennington, Vt. Improved wood dipper.

GATCHELL & HYATT, Cincinnati, O. Photographic goods, etc.

CRAMER, GROSS & Co., St. Louis, Mo. Head-rest.

H. B. CASTLE, Cleveland, O. Solar camera, Suttiff's collodions, chemicals, and general photographic stock.

A. E. TURNBULL, Sandusky, O. Patent tripod.

NIXON & STOKES, Philadelphia, Pa. Patent carte envelope.

WILSON, HOOD & Co., Philadelphia, Pa. French card mounts, etc., by Rohant & Hutinet, Paris.

W. W. HARDING, Philadelphia, Pa. Fancy hinge-back albums.

WILLARD MANUFACTURING Co., New York. Rustic fence and lenses.

C. USNER, New York. American cameras.

A. M. COLLINS, SON & Co., Philadelphia, Pa. Carte mounts, cards, and tints in great variety.

EDWARD L. WILSON, Philadelphia, Pa. Glass transparencies by Woodbury's process and by Soulier.

EDWARD L. WILSON, Philadelphia, Pa. Series of photographic prints and negatives, illustrating common failures.

J. H. HAMILTON, Sioux City, Iowa. Apparatus for printing mezzotints.

A. S. ROBBINS, Cleveland, O. Lenses, frames, and general stock.

B. FRENCH & Co., Boston, Mass. Voigtlander and Darlot lenses, condensers, etc.

JNO. S. PERLEY, Cleveland, O. Focussing glasses.

H. NOSS, New Brighton, Pa. Stereographs and "Fairy Boquet."

PRESTON C. NASON, Cleveland, O. Eye-rest.

POWERS & WEIGHTMAN, Philadelphia, Pa. Chemicals.

W. H. MARDOCK & Co., New York. Paper and chemicals.

C. PFIZER & Co., New York. Chemicals.

ROSENGARTEN & SONS, Philadelphia, Pa. Chemicals.

C. COOPER & Co., New York. Chemicals.

CHAS. T. WHITE & Co., New York. Chemicals.

WILSON, HOOD & Co., Philadelphia, Pa. Ross and Steinheil lenses, Wilson's head and body rest, fancy tables, columns, retouching outfits, etc., etc.

BENJERMAN & WILSON, Philadelphia, Pa. Photographic publications.

SCOVILL MANUFACTURING Co., New York. Fine show of American Optical Co.'s Apparatus, perfect camera stand; a variety of 600 fancy cases and frames; photographic goods of all kinds; Globe, Ratio, and Harrison lenses, etc., etc.

W. M. & C. C. KOHL & Co., Cincinnati, O. A Stereoscopic museum, and a splendid variety of Kohl's regulation stereoscopes, views, etc.

A. P. C. BONTE, Cincinnati, O. Frames.

WM. B. HOLMES, New York. Voigtlander and Darlot lenses; velvet and gilt frames; stereoscopes and camera boxes.

W. P. SLEE, Poughkeepsie, N. Y. Photographic card mounter.

J. H. KENT, Rochester, N. Y. Improved and elegant new posing chair and rest combined.

JNO. CARBUTT, Chicago, Ill. Practical illustrations of the Woodbury photo-relief printing process, two presses.

If any names have been omitted the Secretary will be glad to add them.

WEIGHING AND MEASURING.

BY M. CAREY LEA.

(Continued from page 195.)

IN the previous portion of these remarks I spoke of the conditions necessary for obtaining regular and habitual accuracy in the operations of weighing. Before proceeding to those of measuring, it seems worth while to describe a practice which I have nowhere seen mentioned in print—indeed, have known to be used only by myself, and which, simple as it is, is a great convenience and adopted by me invariably since I first tried it.

Selecting a letter-paper not too thick and with a hard, smooth, glazed surface, I fold it over several times and give it to a binder to cut into squares of such a size as will just conveniently lie upon the pan of the balance. The binder is directed to cut all the pieces to exactly the same size; a pile an inch in thickness is made by four cuts, one for each side.

Now a pair of scales is rarely in such a condition that the two pans exactly balance, and if they are made to balance by filing the bottoms, they soon cease again to do so. But if we put a piece of this letter-paper into each pan and then bring them to balance by tearing off or adding a few

scraps to the pan that is to carry the weights, it is evident that we may take many weights, each with a fresh piece of paper in the other pan, without needing to readjust. The machine-made paper now in universal use is so regular in its texture that pieces cut three inches square, in the manner that I have described, will rarely differ in weight amongst each other by as much as a quarter of a grain; of course, if an exception presents itself, it cannot fail to be noticed in time. I do not think that any one who fairly tries this plan, and realizes the convenience and saving of time which it effects, will ever disuse it.

MEASURING.

The operation of measuring is never as accurate as that of weighing. The same difference in accuracy that exists between ordinary careful measuring and ordinary careful weighing, will be found also between the burette and the analytical balance.

The measuring-glasses or "graduates" now in common use, are made by pouring mercury into them. The quantity of mercury is ascertained beforehand to be equal in bulk to the water weighing the amount which the graduate division is to measure. Mercury is preferred for several reasons: principally for this, that as it does not "wet" the glass, none is kept back by attraction, but the whole can be transferred.

The danger of mistakes is far greater with measuring-glasses than in weighing, than most persons would find it easy to believe, but it may be proved in various ways. Any one desirous to verify his measurements, can make the following experiment: measure off at once 16 ounces of water in a 16-ounce graduate and pour it into a bottle; next take a 1-ounce graduate and measure off successive ounces from the portion thus placed in the bottle, until the whole is consumed, and compare the result.

The surface of water or of other liquid in a measuring-glass is not plane or level, but represents a parabolic curve. The liquid is drawn up the sides of the glass by capillary attraction, and the whole surface has a meniscus curvature. It is the central or lower portion of this curve that should correspond

with the ruled line of divisions and not the upper.

If the operator, having made as accurate a measurement as he can, changes his position so as to alter the manner in which the light falls upon the glass, he will find that his measurement no longer appears correct, but seems to be more or less than right. What was, or appeared right when the light came from above, is no longer so when the light comes in level lines, or is thrown up from below. Of these, the best results are given by a level or horizontal light. A good burner on a level with the eye is very convenient for taking measurements. On the other hand, light from a gas-burner, considerably above the observer's head, tends to very incorrect results.

Another matter of considerable moment is the holding of the measuring-glass perfectly perpendicular. A very little error in this respect will quite vitiate the results. And the evil of this increases directly with the diameter of the upper surface of the liquid as it stands in the measuring-glass. For this and for other reasons, narrow, deep graduates are to be preferred to broader, lower ones.

Narrow, deep vessels of a cylindrical shape will give more accurate measurements than those that are conical, and are much used for exacter work. With *burettes* still more accurate work can be done, especially, as I have shown elsewhere, when a particular arrangement is used for making correct readings.

SPECIFIC GRAVITIES.

The combined operation of weighing and measuring gives the *specific gravity* of a substance which represents the relation of weight to bulk. This determination may be made in two ways, viz., by ascertaining the weight of a given volume of the substance (specific gravity bottle), or by examining its buoyancy (hydrometer).

The last is the least troublesome, especially when a number of specific gravities of liquids are to be taken, but the first is by far the more accurate. Not only is the reading of the hydrometer less exact, but a great many of them are very carelessly and indifferently made.

It is hardly safe to use a hydrometer without first testing it with a specific-gravity bottle. The latter is a small vial closed with a tube-stopper; the tube has a capillary bore like that of a thermometer, the liquid being poured in nearly up to the top of the neck, the stopper is inserted, and the excess of liquid escapes through the tube-stopper and is wiped off. The bottle is of such a size, that when filled with distilled water it has a given weight at a fixed temperature, generally of 62° F., though sometimes 60° or 70°. A 200-grain bottle or a 10-gramme may be considered the best sizes. The only precautions necessary are to have the bottle thoroughly clean inside before pouring in the liquid to be tested, and to wipe the outside perfectly dry before taking the weight, handling it as little as possible, so as to avoid raising the temperature.

The specific gravity is indicated at once by the weight of the liquid. If when the 100-grain bottle is filled with nitric acid, the weight of the contents proves to be 145 grains, this, of course, indicates a specific gravity of 1.45. Having determined the specific gravity of any liquid, this may be used to test the accuracy of hydrometers by allowing them to swim in it, and noting the indications, and how far they are correct.

In using the hydrometer, care must be taken in two different ways: it must be lowered gently into the liquid; if allowed to slip quickly in it will sink too far and then rise again with the stem wetted above the line of the liquid. The hydrometer, having thus an extra weight to carry, will give an erroneous indication. Also, it must not be let to touch the side of the vessel, or it will be held there slightly and not move freely.

The degree should be read off by looking from below and using a level light. Managed in this way, results of tolerable correctness can be got, but not equal to those of the specific-gravity bottle.

CONNECT yourself with the National Photographic Association. It will prove a good, paying investment.

Practical Method of Renovating an Old Silver Bath.

BY PROF. J. TOWLER, M.D.

THE method given below, by which an old bath may be converted into an entirely new one, makes no claim to novelty, because I have already published it; but it has seldom been applied by photographers, either because it had escaped their observation, or had been looked upon as a novelty devoid of utility. I have tested it, however, by long practice, and do not hesitate to pronounce it the best and most expeditious of all its congeners.

We will suppose your silver bath is utterly useless by reason of the admixture of heterogeneous substances, such as ether and alcohol, nitrate of ammonia, of potassa, of soda, lithia, the oxide of cadmium, etc., and organic matter, such as particles of dust, fragments of collodion, etc., which it may contain, and that it is impossible to obtain a good negative in this bath. This being the case, we proceed as follows:

1st. Filter the bath solution carefully. This removes all the foreign substances in the solution that exist in a solid condition.

2d. Place the clear solution in a large porcelain evaporating dish, and throw in a solid lump of zinc (about a pound or so); now pour into the solution, for every 32 ounces, 1 ounce of commercial sulphuric acid and stir the mixture. A violent effervescence ensues and hydrogen gas is abundantly liberated. This operation had better be performed outside of a window or door, so that the fumes may escape into the atmosphere. You will soon observe a quantity of flocculent matter floating about in the solution; this is the metallic silver which has been liberated from the nitrate of silver by means of the hydrogen, etc. In about five minutes, withdraw the lump of zinc, taking care to brush all adhering silver from its surface by means of either a nail-brush or a tooth-brush. The evolution of gas now ceases, and the solution becomes in a very short time clear and quiescent.

We will, at this stage, see whether all the silver has been already separated from the nitric acid. For this purpose, therefore, place about a drachm of the clear solu-

tion in a small test-tube, and drop into it a couple of drops of hydrochloric acid. If a milkiness and a white precipitate are thus produced, it is a sign that all the silver has not yet been separated from the nitric acid. It is consequently necessary to place the zinc again in the solution, and continue the operation of evolving gas for five minutes more, and at the end of this time to test the solution a second time for the presence of silver. Most likely all the silver has been removed from its combination with nitric acid. If so, wash the zinc well by means of a brush and water, and brush all that is loose or flocculent from its surface into the large dish. If there is still an effervescence going on in the solution, it is a sign that there are some particles of zinc still remaining undissolved. Remove these particles with a glass-rod until no more bubbles of gas escape from the solution.

3d. Dilute the solution with much water, and cause all the flocculent silver to settle to the bottom. Now decant all the liquid portion, throw it away, and add an abundance of clean water to the silver; stir the mixture intimately together, then let the silver again settle, and again decant as before. Continue this operation of washing until the drainings, after decanting, become perfectly tasteless or cease to turn blue litmus-paper red. The gray mass at the bottom of the dish is *pure* silver; all the ingredients, which I mentioned as an admixture that rendered the bath unfit for photographic purposes, have been completely removed.

4th. Having drained off all the wash-water, you may spread the pasty mass on the surface of the evaporating dish and put the latter in the sun to dry. Weigh the dry powder, and from the weight you can determine how much nitric acid you will require to convert the silver powder into nitrate of silver. Without troubling you with a discussion about chemical equivalents, I will simply observe, that for every ounce of dry silver powder you may take $1\frac{1}{2}$ ounces of commercial nitric acid. Mix the powder intimately together with the acid in the large porcelain evaporating dish by means of a glass-rod, and place the dish over the stove or a small charcoal fire (not

in contact with the fire); red fumes will be evolved; these are offensive, so that you had better perform the operation outside the house. Let the heat be moderate; the silver will soon dissolve. If, however, after some time there is a quantity of silver undissolved, add more acid and continue the heat until it is entirely dissolved. It is not necessary to dry the silver-powder for any other purpose than to obtain from its weight the approximate amount of nitric acid required. I never dry the powder in this operation myself, but add nitric acid by degrees to the wet mass until the solution of the silver is complete.

5th. The solution thus obtained is an *acid* solution of nitrate of silver; in its present form it is not suited for a new bath. The acidity must be removed. This I effect in the following manner: Take a large glass funnel and invert it over the solution in the dish, thus forming a sort of chimney through which the acid and the steam can escape. The funnel must be large enough to cover the solution entirely within its sides. The solution is now evaporated (as before, in the open air) until no more fumes and no more steam escape. The instant you have arrived at this stage, the dish is withdrawn from the fire and the solution is allowed to cool. When cold you have a dry hard mass, which is fused nitrate of silver, the best form of silver for making a *sensitive* bath. Weigh the fused nitrate of silver, and for every ounce (of 8 drachms) take 12 ounces of water (distilled or pure rain water), and to each ounce of the solution add 1 drop of nitric acid. If you want to take instantaneous views or very quick portraits with the bath, add no acid to the bath; for long exposures, on the contrary, add an extra half drop of nitric acid to each ounce of the developer; in this latter way you obtain *extreme* definition and clear pictures. Behold your new bath!

Now let us see the advantages of this method. In the first place you insure to yourself a bath somewhat better than an ordinary new bath made with the common crystallized nitrate of silver, *better* because your silver is fused. In the next place you obtain from the old bath *all* the silver that it contains, by a very simple and reliable

process which you can *perform yourself* at a very moderate expense. And finally the operation is so rapid that you can begin it any evening and have a new bath next morning.

In addition I would remark, that the silver-powder thus obtained can easily be purified from any organic matter which it might possibly contain by fusion in a Hessian crucible in a common blacksmith's forge, adding as flux a few fragments of nitrate of potash; or the powder itself can be disposed of at the mint for the full value of silver.

Furthermore, this silver-powder, when rubbed up either with a little skimmed milk, or dilute mucilage, or a small quantity of varnish, forms an excellent retouching material for negatives.

STANDARD SIZES.

MR. EDITOR: My attention has just been called to the remarks of Mr. G. Wharton Simpson and Dr. Liesegang in the last number of your Journal, in regard to the want of uniformity in sizes of photographs, not only in the countries of the respective writers, but in our own, where *we* know the subject needs attention.

I thought over the matter considerably last winter, and the sizes that seemed the most worthy of adoption were the following, and in deciding the matter for myself the points had in view were: 1st, to avoid a variety of sizes so great as to be burdensome; 2d, proper proportions as to length and breadth of plate; and 3d, economy in cutting the paper.

The 4×4 or $8\frac{1}{2} \times 6\frac{1}{2}$ size I considered the standard (though why the fractions were added I never understood), the one-eighth of a sheet of paper sufficing for it; then below, the cabinet cards and the usual size of cards, two of the one and four of the other being made on the one-eighth of a sheet, and all three sizes being made on $8\frac{1}{2} \times 6\frac{1}{2}$ glass.

Then upward from the $6\frac{1}{2} \times 8\frac{1}{2}$ we have the 10×8 , which I discarded for general use, and substituted $11 \times 8\frac{1}{2}$, which takes just a quarter sheet without waste. Next comes 14×11 , then 17×14 , and 22×18 , all of which seem to me in very good proportion.

The sizes, then, arranged to be easily taken in by the eye, would be as below, with the size vignette head they would properly take, subject to circumstances of course:

18 x 22 whole sheet,	8-inch head.
17 x 14 " 5 "	
14 x 11 half sheet,	4 "
11 x 8½ quarter,	3 "
8½ x 6½ 2 to 2½ head.	
2 cabinet cards, 1½-inch head.	
4 " ¾ to 1 inch "	

Having leisure minutes on hand, I thought I would ventilate my reflections on this subject. If they are unworthy of consideration it will be of little consequence. If it will prove to be a beginning of the arrangement and of uniformity I shall be glad.

I had hoped the subject would have been considered in the late Convention.

Truly yours,

CHARLES G. CRANE,
532 Arch Street, Phila., Pa.

PHOTOGRAPHIC DIALOGUES.

(SEQUEL TO ONE HUNDRED DAYS IN A FOG,
ETC., CONTINUED.)

BY ELBERT ANDERSON,
Operator at W. Kurtz's Gallery, 872 Broadway, N. Y.
Evening the Second.

A. COLLODION, as you are no doubt aware, is a solution of pyroxyline or papyroxyline (a species of gun-cotton) in a mixture of alcohol and ether. The preparation of pyroxyline presents no very great difficulties, though I do not advise you to prepare your own, simply because you can get it already prepared from the stockhouses much cheaper and better than you can prepare it yourself, lacking the necessary experience and practice.

M. Where do you purchase your chemicals?

A. Humph! a private question which I shall be very happy to answer privately. Suffice it to say that I get my chemicals from —— & ——, and, I will add, I have very rarely any cause of complaint with them. "He is a clumsy workman who quarrels with his tools." It were well for you to test your ether and alcohol for acidity or alkalinity — they *should be neu-*

tral, of course. Be careful in the selection of litmus-paper. Most of the stuff sold is so poor in color, as to make it difficult to tell the red from the blue. Procure a deep blue, and cut it up into little strips about two inches long by half an inch broad. Keep it in well-stoppered bottles in a closet. The red, you will prepare yourself, by simply holding a slip of the blue in the neck of a bottle of glacial acetic acid.

M. What proportion of alcohol and ether must I use?

A. Much will depend upon circumstances; the usual book formula is, equal parts of each.

M. What is the effect of an excess in either case?

A. Though pyroxyline does not dissolve in either alcohol or ether alone, yet a mixture of almost any proportion effects its dissolution. When the ether is in excess, it appears to toughen the film, closing the pores, and prevents intensity; whereas, when the alcohol is in excess, it appears to have the contrary effect, making the film porous and soft, being a state favorable to intensity. A still greater excess, however, renders the collodion glutinous and rotten. We gather from this, then, in making a collodion for negatives or for positives, whose films it is intended to remove and transfer to other substances, that it is desirable to add rather an excess of ether, the film becoming so tenacious that, when the negative is placed in a tray of water slightly acidulated with nitric acid, the film may be easily removed from the plate and handled like thin India-rubber, without tearing. [In this case, however, be very careful *not* to albuminize your plate.] In hot weather and in warm climates it is desirable, on the contrary, to have the alcohol in excess, as it evaporates more slowly, thus preventing the film from setting too rapidly. Having, then, procured a sample of pyroxyline, weigh out 12 grains, put this in a 3-ounce vial, and pour over it 1 ounce of alcohol. When the cotton is thoroughly soaked with the alcohol, pour in $1\frac{1}{4}$ ounces of ether, and shake until all the cotton is dissolved.

M. Why not have "mixed your liquors" in the first place?

A. Experience proves that the cotton dis-

solves more readily when previously soaked with alcohol.

M. Excuse my interrupting you so often. I want to know exactly what I am doing, step by step.

A. Whatever you do, don't be afraid to "ask questions," if I may use so ungrammatical an expression. This, then, is plain collodion. Let it stand until it has settled perfectly clear, when it may be filtered through a piece of cotton-wool pressed into the neck of a funnel. Now coat a plate and pay particular attention to the qualities of the film. 1st. It should set rather quickly. 2d. It should be quite firm, and *entirely free from glutinosity* at the corner from which it is poured off. 3d. It should be perfectly smooth and even like the surface of the glass itself. 4th. It should be perfectly transparent. If it should fail you on the first and second points, the cotton is in fault and must be rejected. The appearance of *ridges*, supposing the plate to have been properly coated, denotes water in the alcohol or in the ether. If, in addition to the ridges, the film be very glutinous and exhibit an *opaline* appearance, the alcohol or the ether contains *too much* water, and they must be rejected. In this case the excess of water precipitates cotton in a very fine state of subdivision. If, however, none of these faults appear, you may proceed and make up your plain collodion in the necessary quantity, according to the amount of business done. I will allude to this again presently. When I bought my scales, I threw away all the weights and made myself a set of glass ones by cutting out little squares of glass, grinding off the edges, and pasting little pieces of paper on them upon which was marked the number of grains it weighed. I made eight of these marked as follows, 5, 10, 20, 40, 80, 100, 100, 200, by means of which I can readily weigh off any amount from 5 grains to 555 grains (not requiring anything smaller than 5 grains). They are always clean and save much time in picking out scruples, drachms, etc. (our system of weights being about the most *idiotic conception* that I can well imagine).

M. What iodides and bromides do you recommend?

A. The iodides and bromides are chosen according to the desired effects in the collodion. For instance, iodide of ammonium has the effect, in time, of rendering collodion rather more fluid and soft, opening the pores, and thus favoring intensity. After long keeping it liberates the iodine, rendering the collodion red and less sensitive, hastening decomposition. Iodide of cadmium, on the contrary, assumes the opposite results, rendering the collodion glutinous, and toughens the film, closing the pores, reducing intensity, does not liberate iodine, and preserves the collodion colorless, and on this account is not so sensitive as iodide of ammonium.

M. And the bromides?

A. He is a bold man who undertakes to tell you the exact effect of the different bromides. Opinion is greatly divided on this subject. I made a few experiments with a view of deciding to suit my own ideas. You may readily repeat them yourself. Collodion No. 1, iodized with 6 grains of iodide of ammonium, brought out the high lights very quickly, which, if not checked in time, would grow very intense, and if checked before this point is reached, would leave the shadows devoid of detail. Collodion No. 2, iodized with 6 grains of iodide of cadmium, produced the picture slowly and with little contrast and no brilliancy. Collodion No. 3, iodized with (or rather bromized with) 6 grains of bromide of cadmium, took a very long time to settle and clear, worked very slow, giving a dull and lumpy image. Collodion No. 4, iodized with 3 grains of iodide of ammonium and 3 grains of iodide of cadmium, made a good surface picture with detail, though lacking depth and rotundity. Collodion No. 5, iodized with 2 grains of iodide of ammonium, 2 grains of iodide of cadmium, and 2 grains of bromide of cadmium, glutinized and destroyed the setting qualities and left a scum on the surface of the nitrate bath. Collodion No. 6, iodized with 10 grains of iodide of ammonium, 3 grains of bromide of cadmium, 3 grains of bromide of ammonium to 2 ounces of collodion, made a very satisfactory article, rather too intense to suit me, however. I make mine (Collodion No. 7) iodized, 4 grains of iodide of cadmium, 5 grains of

iodide of ammonium, 3 grains of bromide of ammonium, 2 grains of bromide of cadmium to 2½ ounces of collodion with excess of ether.

M. Is there any rule in regard to the order of preparation?

A. Rule? No. Reason, yes. I generally make up 64 ounces (half gallon) at a time. Into a 64-ounce bottle put 380 grains of pyroxyline, upon which pour 30 ounces of alcohol; when saturated, add 32 ounces of ether, shake until the cotton is dissolved, set aside to clear and settle, and then filter through cotton as before mentioned. Into a glass-mortar put 100 grains of iodide of cadmium, grind up with alcohol until entirely dissolved; pour this off in a small bottle. Do the same with 50 grains of bromide of cadmium; pour this into the iodide of cadmium solution. Next take 75 grains of bromide of ammonium, and dissolve in the same manner, *using, however, the alcohol in which the cadmium salts were dissolved*. This may require about 2 ounces of alcohol; add this to the plain collodion, shaking it well; finally take 130 grains of iodide of ammonium, and grind it in the mortar with the collodion; when settled perfectly clear and filtered, say in two or three weeks; add to this one-fourth its bulk of the same kind of collodion one month older.

M. What are your reasons for dissolving the iodides and bromides in the order you have just stated?

A. Bromide of ammonium is not readily dissolved in alcohol without the addition of water (which I object to on the grounds already mentioned). But, strange as it may appear to you, bromide of ammonium is easily dissolved in alcohol holding iodide and bromide of cadmium in solution.

M. Why is this so?

A. Iodide of silver, for instance, is insoluble in water, but, if cyanide of potassium be previously dissolved in the water, the iodide of silver is taken up; possibly some such reaction takes place with the iodide and bromide in the other case.

M. Have you a special formula for copies or for out-door work?

A. Oh no; I use the same, omitting only the bromide of cadmium and increasing the iodide of ammonium to an amount equal to

the loss of the cadmium (namely, iodide of ammonium 180 grains).

M. I have found some difficulty, in copying engravings or printed matter, in getting the negative sufficiently intense to keep the paper pure white, without clogging the lines or the lettering.

A. This is a very simple matter which, however, belongs more properly to another branch of our "pow-wow-wow." Now, if you like, in our next chat we will take up the subject of the "Negative Bath."

M. With great pleasure, and, as that appears to be the great head-centre, upon which so much has been written and said, *pro* and *con*, I am really curious to hear what you have got to say on the subject.

A. All right; the nitrate bath is unquestionably the most important of all your preparations, the keystone upon which everything else depends. Well, good night; we will tackle the bath to-morrow evening.

ON "REMBRANDT EFFECTS."

I HAVE seen so many of the so-called "Rembrandt" photographs that, to my mind, were photographic abortions, have heard such extravagant praises of the beauties in them, which I couldn't see, that I am in a great measure disgusted with them.

I don't believe cheap weavers of doggerel write *Shakspeare poetry*, nor do I believe the "photograph man" makes *Rembrandt portraits*. I have seen some very fine heads made much in shadow; I don't know whether the makers would insist upon their being Rembrandts, or permit them to be simply photographic portraits. It is not, however, this work or this worker that I refer to. My business is with the real, Simon-pure, "no humbug" *Rembrandtist*, the man who "*produces effects*," and challenges the public to admire them; the man whose new operating-room will be made without windows, just a good, tight room, sir, with a *crack*—facing the south, sir—he knows it will require longer sittings, but he'll show you some "RATTLING EFFECTS."

In "Rembrandting" a lady, she is so placed in (or out of) the light that the photograph shows a heavy "fall of snow" on

top of the head, and in some aggravated cases her wealth of waterfall and switch are besmeared with a pasty coating known to fruit-cakes, and suggestive of splitting and flaking. Immediately below this white "upper crust" is a black mystery, without detail and without meaning.

What possibly was a beautiful head of hair, is a mass of white and black, bearing no special resemblance to hair, having no beauty in itself, and only showing how it is possible to *misrepresent* hair.

Many of our first photographers are pointing out to the less experienced, the path leading to "Rembrandt" practice as the road to success, and those who pursue the old manner of taking a face in the light are suspected old fogies. Some assure us that every face can be "Rembrandted" to advantage, that a face of no interest can be made "interesting" this way.

And we must educate our patrons up to an understanding of this new style. Yes! they are beginning to learn something about it. A few are calling for them; as a rule, they generally ask for "Bon Tons" first.

A bereaved lady—a widow, who had recently buried her dear third—heavily loaded with crape, a few days since called for a sitting. She wanted a "REMEMBRANCE photograph." I failed to understand until she told me they were "mourning pictures," *taken very black*.

A young chap, of the country smart order, recently bestowed a bit of patronage on me. He wanted "Rumbants," at least he said he did. I see by these "straws" that the public mind is being awakened.

As an old fogy, I object to a good deal of this. I have traversed the old bridge for more than twenty years, it has borne me safely, and I must speak well of it. To my mind, the most perfect representation of a head in a photograph is that given by clear white for its highest point of light, and full black for its deepest shadow, and from these extremes all the gradations of intermediate shade to balance and harmonize with the clear white and full black.

A head so lighted, and taken by a good instrument, well focussed, and with good chemical action, gives all the modelling and details of shape, with the *quality* and

texture of flesh and hair. I believe in our art it is advisable to "*make the most*" of all favorable points. The "startling effect" in "Rembrandt" practice is got at the expense of *many fine points lost*.

A fine piece of music, well rendered by a full orchestra, gives an idea of harmony. The same piece arranged *a la Rembrandt* executed by Piccolo and Tuba, gives the extremes.

I believe in advancement, but I believe it is better that we "make haste slowly" than branch out as Rembrandts, M. Angelos, Hogarths, Raphaels, or any other of those old-time fellows, who had their "peculiar ways," and which "ways" we have *not yet* quite attained. It is very commendable that we study light and lighting, and that we practise it *as a study*, but I doubt the wisdom of thrusting upon the public, and trying to make that public swallow such doses as are nine-tenths of the "Rembrandts" made in this country at the present day.

I am conscious of saying these things in the face of acknowledged authority, but what I say, I believe in. The introduction of this style of lighting, or shading, has sent more bad photographs into existence than many poor dark-doers will wish to answer for, if they are recorded as sins or crimes against them. If few agree with my arguments, let them, the arguments, be set down as the whims of an

OLD FOGY.

ALKALINE DEVELOPMENT.

BY M. CAREY LEA.

WHILST some operators find little difficulty in getting any desired amount of density, by the alkaline process alone, others are obliged to depend upon a redevelopment with acid, silver, and pyrogallie acid, obtaining a thin image only by the first development. It has seemed to me, therefore, that some suggestions and remarks on the action of alkali upon the image might not be uninteresting. I should premise that what I say relates to carbonate of ammonia, as I find that substance to be, on the one hand, more powerful than the carbon-

ates of the fixed alkalies, and, on the other, more under control than caustic ammonia.

The influence of carbonate of ammonia on an exposed plate is sometimes very wonderful. If the exposure has been properly timed for alkaline development, the plate, when plunged into cold water containing pyrogallie acid in the proportion of half a drachm of 60-grain solution to 4 ounces of water, gives no evidence of action, even after several minutes; if it does give such evidence, the plate has been more or less over-exposed. This is with *cold* water, while hot water, especially if the dose of pyro has been twice as great, will bring out all the high lights.

Supposing, then, that cold water has been used, and that the plate, having been moderately exposed only, does not give any indication of an image, let us now add a solution of carbonate of ammonia in the proportion of an eighth of a grain only to the ounce of bath; immediately the image appears.

With this dose, or with one but little larger, the plate, if left for a sufficient time in the bath, will come out in all its details, and acquire such a strength that, when held up to the light, it will be judged to have reached printing density. It is now plunged into the fixing-bath, and, when taken out and washed, it is found that, although beautifully full of detail, it is so thin that it would be absurd to attempt to print it. A reduction of the strength of the fixing-bath is perhaps tried, but this makes no very material change, although it is certain that, for plates containing bromide of silver to the exclusion of iodide, a very weak fixing-bath (say 1 part of hyposulphite to 50 of water) is best. So there is nothing to be done but to redevelop with silver, and, as perhaps the same trouble continually returns, the operator very likely comes to consider that the redevelopment with silver is a necessary evil, and adopts it as a regular part of his system.

The explanation of this difficulty is as follows: carbonate of ammonia in conjunction with pyrogallie acid acts upon the exposed film very differently, according to the strength with which it is used. A very little of it is capable of bringing out every detail and of producing a picture which *seems to*

have printing density, but which will not stand the fixing, but comes out red and pale. A considerably stronger dose of it, applied to the same film, will give an equally good image in all respects, with the power of resisting the fixing bath. With a little practice one can tell with certainty, beforehand, that one particular image will break down in the fixing, and another, apparently no denser, will bear it perfectly and look just as dense after fixing as before it. The *color* is the criterion which enables us to make this distinction. If the image, after development, and before fixing, be *reddish-brown*, it will give way in the fixing and come out red and thin. If it be *brownish-black* before fixing, it will come out of the fixing bath with a fine brown color and good intensity.

The proportion of carbonate of ammonia which I have given in my directions for developing collodio-bromide plates will, I think, always give sufficient density, especially if the second portion of alkali be used. Latterly, however, I have been disposed to think that I got more detail in the deep shadows by developing more slowly, by adding but a few drops of a carbonate of ammonia solution at first, and letting the picture come out thin and pale at first, then afterwards bringing it up to the brownish-black color by a good dose of ammonia. To be sure that the image will resist the fixing bath, we ought to end the development with carbonate of ammonia in the proportion of not less, I think, than 30 minims of 80-grain solution to 4 ounces of water; this is $1\frac{1}{4}$ grain of carbonate to the ounce of developing bath. I do not think that the gain by this more gradual development is very great, still it gives perhaps a little more detail, and even a little is always an object. Besides, the operation is more gradual, and therefore rather more under command. It is to be observed that the darkening under the influence of the strong dose of alkali at the end, is very rapid, and that during this stage of the operation the plate must be very carefully watched, otherwise it may easily become too dense. In the alkaline development, when properly managed, density comes as easily as with an acid redevelopment with silver, and there is just the same

need of circumspection to avoid overdoing the work.

The use of bromide in alkaline development is of the very first importance. Its value will be felt by every one even from the first trials, but the best way of managing it, so as to get in all respects the best results of which the plate is capable, is learned only by long experience.

The plan which I am inclined to prefer, is to first add the pyrogalllic acid to the bath, using $\frac{1}{2}$ a drachm of 60-grain solution to 4 ounces of water if I suppose the plate to have had about a right exposure. If from other plates already developed, I judge that the exposure has been rather too long, I diminish the pyro a little; if, on the other hand, the exposure has been brief, I double it, using 1 drachm, and if the exposure has certainly been very short, I use hot water. The bromide I mix with the alkali and introduce the two together. I mix them in the most varied proportions, according to the amount of exposure which the plate is likely to have had, using carbonate in 80-grain solution (in water) and the bromide of potassium in 60-grain, likewise in water. I use, in the case of a medium exposure, about 1 part of bromide solution to 3 or 4 of carbonate. But, with an under-exposed plate, I use as much as 8 of carbonate to 1 of bromide. If the plate has certainly been over-exposed, I increase the bromide, and, in cases of great over-exposure, have used even as much as 5 of bromide to 1 of carbonate.

These cases are exceptional only, however, and will serve to show how much ordinary conditions may sometimes be varied with advantage. Much will depend also upon the nature of the process by which the dry plate has been made. A large dose of bromide gives very brilliant plates, but not as harmonious as when less is used; on the whole, it may be said that the best rule is to use enough bromide to keep the plate clean, and no more.

It is impossible to over-estimate the value of the alkaline development. No one who has once acquired familiarity with it (and this is not in the least difficult), will ever use any other method for the development of dry plates.

GRIT VARNISH.

THOSE who practise retouching the negative, know how difficult it is to work upon the varnished film with the pencil and the brush, and still more difficult to make anything adhere to the reverse side of the negative. We have stated several substances, such as powdered pumice-stone, etc., that would secure a "biting" surface on the *varnished* side of the negative, but they took time and trouble to apply them. Mr. Thomas Cummings, Lancaster, Pa., has, we think, obtained the great desideratum, specimens of which he has given us for trial, and also exhibited to us negatives treated by him. His preparation is a grit varnish, ordinary varnish with a finely powdered gritty substance added, which is applied to *both* sides of the negative. The result is a surface admirably answering every purpose, taking either pencil or color readily, and giving absolute command in the retouching, no running of color, no slipping over wrong places or anything of the kind. The grit varnish is well shaken and applied with a little heat. If a *coarse* surface is wanted, apply at once after shaking, or wait a few moments for a fine surface. It could almost be made a substitute for the Berlin ground-glass negative process. Mr. Cummings has patented his invention, but through the dealers supplies it at a reasonable advance on ordinary varnishes, and charges nothing for "license." All can use it. It is a great helper to the retoucher.

Members of the National Photographic Association.

THE following persons have joined the National Photographic Association since the publication of the list of members in this Journal, July, 1869. At Cleveland the Secretary was ordered to publish the Constitution and By-Laws of the Association, with the names and addresses of the members added. If there are any corrections, therefore, to be made in these already published lists, or any omissions, the secretary would be glad to hear of them by 1st September, when he will proceed to publish as

ordered, and send a copy to each member whose dues are paid.

ADDITIONAL MEMBERS.

Louis Alman, A. E. Alden, George B. Ayres, William H. Allen, J. M. Appleton, George R. Angell, R. L. Andrews, R. L. Allen, W. R. Atkinson, George Barker, R. A. Beckwith, H. L. Bingham, A. A. Baldwin, E. W. Bogardus, Jex Bardwell, J. M. Boyle, A. Billows, F. W. Blakeslee, H. Besancon, C. H. Buchwalter, S. R. Barrett, J. E. Bilbrough, L. M. Burkholder, George Butt, James Bonney, Alfred Bowman, J. P. Brown, H. P. Bunker, A. E. Beers, J. K. Bottorf, John R. Clemons, E. R. Curtiss, James M. Copper, H. H. Cole, Gallo W. Cheston, J. V. Cookingham, N. S. Curtis, Frederick S. Crowell, S. W. Camp, N. S. Campbell, D. R. Cady, J. H. Copeland, H. S. Clark, W. A. Carson, Mrs. M. N. Crocker, M. N. Crocker, George P. Critcherson, E. Cope, A. D. Deming, H. R. Doane, Alonzo Durkee, L. Dubernet, G. W. Doty, T. M. V. Doughty, D. Dowd, J. C. Downing, Wellington Dickinson, C. A. Dirr, N. V. Dunlap, L. H. Freeborn, B. L. H. Dabbs, George U. Elton, T. R. Evans, John Earle, J. C. Elrod, J. Perry Elliott, J. M. Elliott, James Fennemore, Miss H. H. Flanagan, Frank Forshaw, Mrs. H. G. Fetter, W. K. French, Miss Jennie Fleming, B. F. French, W. D. Gatehel, Manly Gaylord, S. P. Gaugler, Wallace L. Goodridge, B. Gray, George C. Gillette, Harry Guriltz, David Ginter, J. C. Goetchins, M. M. Griswold, J. R. Gorgas, Wesley Green, Theodore N. Gates, William Harry, John Harper, J. S. Hartsock, John G. Hicks, T. H. Hughes, E. S. Hayden, W. B. Holmes, B. E. Hawkins, H. B. Hull, Charles Holt, C. F. Holcombe, A. S. Robbins, D. Hovey, W. Hart, John Hodges, J. W. Husher, Alfred Hall, A. Hesler, H. O. Hall, J. E. Jewett, N. P. Jones, C. S. Judd, D. M. Johnson, Thomas H. Johnson, H. W. Immke, G. G. Johnson, W. S. Johnson, N. G. Johnson, E. Klauber, William L. Kirkpatrick, J. H. Kent, C. Kendig, J. D. Kellogg, W. M. Kohl, Edward Kruse, I. N. Knowlton, J. Kleinbans, Reuben Knecht, E. A. Kusel, W. Kenyon, A. Kracaw, W. S. Loughton, J. H. Lakin, James Landy, J. Levinger, W. H. Lempert, G. W. Lonsbury, A. Milt. Lapham, W. H. Lockhart, W. M. Lockwood, M. A. Loomis, D. Lothrop, L. J. Marey, Henry Merz, N. D. Morgan, E. J. Mote, J. McFadden, A. L. Moffatt, Eugene W. Meafoy, C. Mundy, H. C. Moore, Albert McDonald, H. L. Mather, C. W. Motes, T. T. Moore, L. B. Melvin, M. H. Magee, C. M. Marsh, George R. McClellan,

John Nicholson, G. K. Nellis, William C. North, S. A. Nicholas, Preston C. Nason, John H. Oakley, Ira G. Owen, Isaac Ohlweiler, Eli J. Palmer, D. C. Pratt, James H. Phipps, A. P. Park, W. R. Phipps, A. K. Palmer, P. M. Pool, H. M. Philips, George H. Plimpton, H. M. Platt, S. B. Russell, L. M. Reek, S. Root, W. H. Rolofson, S. S. Richards, John P. Ryer, J. J. Randall, J. Reifschneider, Norman M. Ross, A. O. Reve-nough, James L. Randall, A. J. Riddle, W. B. Rullen, A. Rossman, M. A. Rees, Daniel Rider, J. E. Rich, L. M. Rice, W. Reiterman, C. C. Schoonmaker, John G. Stewart, Thomas M. Seaton, D. H. Spencer, L. W. Schellhouse, Charles E. Smith, Louis Seeborn, Charles Slauson, M. Sevinski, J. H. Scottsford, F. A. Simonds, W. A. Smith, J. H. Swaine, G. H. Sherman, William Shaw, Thomas Shaw, L. M. Sackett, D. J. Stewart, E. H. Train, A. P. Trott, John A. Todd, J. Q. A. Tresize, James Tripp, T. J. Trapp, A. K. P. Trask, W. C. Tresize, David Tucker, L. W. Thornton, W. H. Tilford, D. W. Van Riper, W. M. Vincent, W. T. Van Loan, J. G. Vail, R. Uhlman, A. Van Sickle, I. B. Webster, Charles E. Wallin, George Wolf, D. H. Wright, Z. P. McMillan, V. M. Wilcox, Wellington Watson, T. D. Wolbach, W. H. Whitehead, A. W. Wood, John W. Winder, J. P. Whipple, C. E. Wilber, L. B. Williams, W. F. Willett, A. D. Wiles, J. H. Wyckoff, S. L. Wilcox, Ira Wilkins, L. M. Whitney, J. S. Young, Louis Youngman, E. S. Young.

NEW YORK CORRESPONDENCE.

THE July meeting of the Photographic Section of the American Institute was held under many disadvantages, the greatest of which, ninety or more degrees of heat, was sufficient to keep quietly at home all but some ten members.

Considerable discussion took place upon keeping silvered paper white and good these hot days.

Mr. Gardner said that nitric acid in small quantities added to silver solution would make all go well.

Mr. Newton advised the use of carbolic acid in the bath.

Mr. Hull was of the opinion that if silvering solutions are kept as cool as possible, by placing the silvering dish in another of cool water, floating the least possible time, and using paper as lightly salted as can be had, that but little trouble would be experienced.

He also advised the use of the old style of box for keeping silvered paper, much used ten years since, *i. e.*, a tin box of any depth or size you please, with very tight-fitting top or cover; inside in a pan the full size of box you place chloride of calcium or quicklime broken into small pieces; over this, upon a wire frame, stretch a piece of gauze or network, upon which the silvered paper, when dry, is placed. If the box is air-tight and the calcium fresh, the paper will keep many days.

Yours, etc.,

C. W. HULL.

PENNSYLVANIA PHOTOGRAPHIC ASSOCIATION.

A THIRD meeting of the photographers of Philadelphia and vicinity was held on Wednesday evening, June 29th, at 822 Arch Street, Philadelphia; they organized permanently *The Pennsylvania Photographic Association*, as an auxiliary to the National Association. Mr. William H. Rhoads occupied the chair. Minutes of the previous meetings were read and approved.

The committee appointed to receive Dr. Vogel, reported having done so, and were continued, to extend him further attention during his coming visit to the city.

Those who had attended the Cleveland Exhibition were then called upon to state what they saw, and their impressions of the affair. Mr. Albert Moore said what impressed him the most was the wonderful extent of the Exhibition, and the cordial feeling existing between photographers present, all showing a disposition to communicate what they knew to their neighbors, instead of selling out at \$25 an idea. He also stated that Philadelphia had been chosen for the next Exhibition, and no doubt those present would make every endeavor to secure the brilliant success of the affair.

Mr. Trask declared that his expectations were exceeded in every way. He had not supposed that America could compete with Europe in photography, but he had altered his notions in that respect. He said it had almost "burst" him to go, but he was willing to be "burst" again for such a sight.

Mr. Rhoads said one of the happiest occasions in his life was the Thursday night during the Exhibition. He stood with others on the stage and watched the two thousand five hundred people there examining the pictures with such interest; listened to the grand music, beheld the great display himself, and thought, truly a happy day is coming for our art; and he would have given \$100 to have had every Philadelphia photographer there an hour.

Mr. Moore now moved for permanent organization. Carried, and organization formed under the name of the Pennsylvania Photographic Association; and to work under the constitution of the National Photographic Association.

The following were elected the officers of the Association:

President, William H. Rhoads; Vice-President, A. Moore; Secretary, R. J. Chute; Treasurer, John R. Clemons.

Executive Committee: E. L. Wilson, G. Schreiber, C. G. Crane, S. M. Robinson, H. Krips.

Messrs. Evans, Seeler, Trask, Phillips, and Shoemaker, were appointed a committee to prepare by-laws for the Association.

Adjourned to meet first Tuesday in September.

FERROTYPERS' ASSOCIATION OF PHILADELPHIA.

THE regular monthly meeting of the Ferrotypers' Association of Philadelphia was held at the late E. F. Warrington's gallery, Tuesday evening, July 5th, 1870, the President, Mr. A. K. P. Trask, in the chair.

The minutes of the last meeting were adopted as read.

It was resolved to admit to membership an applicant from one of the Western States, whose letter of application has been mislaid, and leave a blank for his name until it shall be again ascertained.

(If the above should meet the notice of said applicant, he will confer a favor by sending his address to the Secretary.)

The meeting was of the opinion that a small block of wood covered with India-

rubber was one of the best things to remove moist films with from ferrotype plates, without scratching or injuring them.

Resolved, That discussion on the rubber-block be laid over until next meeting.

Resolved, That we now exhibit pictures.

The ferrotype decided to be the best was made by Mr. Charles E. Bolles.

The President and Secretary, being called upon, addressed the meeting on what they saw and learned at the Cleveland Convention and Exhibition, noticing the fact that some of the best works there were made by men young in the profession; therefore we should this present year put forth greater effort and more determination to excel than we have ever done, and do our part towards making attractive and beautiful the next National Exhibition, which is to be held in our city in June, 1871.

Adjourned to meet at Mr. George D. Wise's gallery, northwest corner of Second and Christian Streets, August 2d, 1870.

D. LOTHROP,

Secretary.

THE SHAW & WILCOX PATENT.

THERE has nothing specially new transpired as yet concerning this patent since our last issue.

We believe that the "Co." intend to prosecute under their reissue, the first party who refuses to recognize their claims.

If this is done, of course we shall keep our readers posted, and were we the party we should resist until the court decided that we were wrong, for we believe stronger than we ever did before that the claims cannot be sustained.

For maintaining this belief we are threatened with a hasty proceeding in the libel suit, which we are also ready to meet.

Should any of our readers be prosecuted by the Shaw & Wilcox Co., we will be glad to know of it at once.

Meanwhile, having now said much more about this patent than it deserves, we shall be quiet on the subject for the present, and save valuable space for better things, never forgetting, however, to watch diligently over the interests of our patrons.

THE SPHYNX.

WE now regularly open our new column, as announced editorially in our June number, and our readers will remember that this is *their* department. *They* are to *ask* and *answer* the questions. It will give them an opportunity of discussing little troubles in practice, which we think they will find of use to them. We have now set the head to talking, you be sure to keep it going. Those who ask questions need not publish their names.

We now add the answers sent in to last month's questions, ask a few more that have been put, and then leave the whole thing in *your* charge.

ANSWERS.

1st. Bromide of silver is more sensitive to dark, and less sensitive to white objects than iodide of silver, consequently, it produces harmony between light and shade.

2d. Solarization is a metallic-looking whiteness over various portions of the negative on a portrait; for instance, the forehead and cheek-bones, and the front of the nose will be perfectly opaque, while the other portions of the face will be dark; or, in other words, a solarized negative is a harsh one, although it does not follow that all harsh negatives are solarized. Solarization may be produced in many ways: 1st. By fusing a bath to alkalinity and then acidifying with acetic acid instead of nitric. 2d. By using a cadmium collodion in a very strong light. 3d. By a negative bath that is very acid, and also by a very old and insensitive collodion. Prevention and cure is to avoid the cause.

3d. In one ounce of water, dissolve two grains iodine potass. and one grain iodine. Flow the foggy negative with this till it is a brown color, which is iodide of silver. Refix it in hypo. If this is not sufficient to clear it, repeat the operation two or three times till it is clear. It must be well-washed after each application of the hypo.

4th. No! The strong solution of iron gives a coarse deposit of silver, a weak solution a fine deposit; excess of acid in the strong solution only makes it act more slowly, whereas, less acid in a weak solution produces fog.

5th. Ether and alcohol in an old bath tends to reduce intensity. A collodion that is just right for an old bath is generally too intense for a new one, and a collodion that is just right for a new bath will generally be too weak for an old one.

There are of course exceptions to this rule, modifications being caused by other conditions of the bath. *Cure*,—Boil the old bath, neutralize it, and sun it for a week or two.

6th. There are hundreds of "present theories," none of which have been proven correct. It would therefore be useless to discuss the subject in this column.

7th. The acetate of soda formulæ which have been published several times in these pages.

8th. After toning is over, add C. P. muriatic acid to the toning bath till it turns it red. Before toning next day, neutralize again with bicarbonate of soda. It does not harm a toning bath to turn red after considerable use—in fact it improves it—as you will find.

Questions.

1. What is the best method of keeping plain paper from turning yellow during hot weather?
C. H. W.

2. What is a true "Rembrandt Effect," or what was Rembrandt's method of lighting?
O. P. Q.

3. Is chloride of gold, say one grain to an ounce of water, a good thing to intensify a negative with after fixing with cyanide?
J. P. M.

4. What will prevent little particles of matter from adhering to the plate in the bath solution?
HARRY.

5. What causes irregular yellow streaks on albumen paper after silvering?
TROUBLE.

UNDER THE SKYLIGHT.

BY ROLAND VANWEIKE.

No. III.

Hot, is it, Focus?

"O, yes, it's very warb."

Yes, this makes us sigh for the mountains or the seashore, but we poor photographers

that *make faces* and take off heads for a living must be reckoned among the stay-at-homes, and swelter under a skylight with the thermometer anywhere above a hundred. It is a matter of wonder to me, sometimes, that we have any business during the heated term.

In our last lesson, Focus, I gave you some examples of plain photographs, and as there is such a diversity of styles that come under this head, we will continue them this morning.

"Well, I wadt to kdow all the differet stydes."

O, yes, you shall have all I can give you, but when you say *all*, I fear we shall not live long enough to make them. If you wish to know how many different positions the human form is susceptible of, count the number of changes that may be rung on the musical scale, the ten numerals, or the letters of the alphabet.

"Or the ted commadmedts?"

Yes, according to some people's interpretation of them. But the field before us is infinite in its variety, and we should never be satisfied with simply repeating what we have done before, or copying somebody else, but strive every time to make something different. Scarcely any two subjects will admit of the same arrangement; each must be studied separately in the few moments they are before us, and the posing made that is best adapted to the individual. Very often a sitter comes in with a picture of a friend, and wants one made like it. The photographer does his best to get as near it as possible, but such sittings are nearly always failures. Better drop the sample and pay no attention to it, but make what is best adapted to the subject before you.

Now here is a gentleman that wants a three-quarter figure, sitting. He has the appearance of a farmer, and to place him among such surroundings as we would give a professional, would be entirely out of place, so we will seat him in this easy-chair and let him make himself as much at home as possible. If he will cross his legs, so much the better; it is really the best for such a position, as it breaks up the parallel lines we otherwise get. Turn the body about three-quarter view, with the face a little more to

the front, and place a table near the back of the chair, or the curtain may be introduced to fill the space. Let the background be well shaded on the side next the light, and bring the other side forward so that the cheek will show a line darker than the ground. Light him up well, and be careful that the shadows are not heavy, as a bronze face will make shadows where a fair one would give none.

"O, what a bretty little girl!"

Yes, Focus, she is handsome, and we ought to get something fine of her. I see you have an eye for the beautiful.

"That's just what buther always said whed I used to grow a row of big sud-flowers all round the garden."

Yes, no doubt, but this is a sun-flower that will take the shine all off of yours.

Now they want her standing, and will leave the arrangement to us. The end of this lounge is about the right height; let her rest against it, so she may lean partly on her arms as they lie in a graceful, easy position. That gives almost a profile of her body, and shows her hair well as it falls over her shoulders. Bring the face to about a three-quarter view, and let her stand on one foot, the other resting behind on the toe. This piece of velvet drapery thrown over the back of the lounge will give relief to her light dress. Set this basket of flowers in the end of the lounge, and give her some stems or buds to occupy one of her hands.

How does that look, Focus?

"Well, it looks az if there ought to be subthing od the other side."

Very good, Focus, you're right; I am glad to see you have so good an idea of what is proper. The picture don't balance well as it is, so we will introduce the front of this chair behind her, bringing it a little forward, so as to catch the focus of the instrument; on it we will lay her hat and sack, and let this hassock come in front of the lounge, on the other side, with the picture-book carelessly on the floor. We might introduce a doll, or any other childish plaything, with good effect, but there is sufficient. Now draw the curtain on the shadow side, so as to give one side of her face well in shadow, and let the background be quite

dark. Ten to twelve seconds' exposure will be sufficient.

If we fail once, we try again, as long as there are any hopes of success.

Here's a lady wants her "likeness taaken sh'tannin." Says she "wants it taaken sh'trait!" Do you know what that means, Focus?

"I zuppose she wadts to stand straight."

Yes, she wants a square front view of body and face. Now, we must reason the matter with her a little, and work her into such a position as will give what ease and grace such a body is capable of, which is very little. Every muscle is stiffened, the fingers stick out straight, and the eyes look as if about to burst from their sockets. She wants to know if this is Mr. "Takem-strait's place;" says "he takes likenesses illigantly!" It's a pity she hadn't found him, but evidently she can't read the constitution yet, or write her own name. That position is all we can do with her. There is not much chance for a reputation with such subjects as that.

But here is a sitter that promises something better. Appearances are deceitful sometimes, however. O, dear, she says she has had to wait so long that she is almost out of patience. "Mr. Quicklight," she says, "don't keep folks waiting as we do here." "Pictures finished and delivered in three minutes!" That's the style; that's what people demand. They drive us into doing everything at railroad speed, and then find fault with us if it is not done well. The fact is, the progress of photography has been greatly retarded in this country by the mania that has existed during the past few years to do *fast work* for the sake of doing it cheap. The fastest men may blunder into something good sometimes, but to do uniformly good work requires great care and a little time to study. Now, if we can make this lady understand this, she may exercise a little more patience with us, and make herself more at home. She wants a full-length sitting, and had the good judgment to wear a full flowing skirt. But she is terribly nervous, squirms at the head-rest, and declares she'd rather go to the dentist.

"I don't believe it!"

Well, no matter, Focus, we must proceed

coolly and deliberately with her. If she complains that the rest makes her feel stiff, take it away, and let her adjust herself in an easier position; comply with her whims as far as possible, and she will cool down in a few moments, so that she will sit perfectly at ease with the rest. Considerable attention to the folds of her dress will give you a good opportunity to decide upon the best view of her face, besides making her feel you are taking a great deal of pains with her. The style of features and arrangement of her hair will give a fine view, nearly profile. The table, with books and ornaments judiciously arranged, will make up a parlor-scene with the fresco background. A fan or book may occupy her hands. During this arrangement she has got over her excitement, and seems in condition now to get a good picture, which she says she has never had. How is the light, Focus?

"I guess the shadows are dop heavy od her face."

Yes, draw up the curtain so as to light up the front of her face more, and make your exposure.

"It takes lots of batience with zuch sitters as that."

Yes, Focus, talk about patience with babies! It don't require half as much as it does with some grown persons. Babies, we don't expect anything of.

This will do for to-day, and some time when we have some of the little pets, I'll give you a lesson on babies.

WHITNEY'S OUTSIDE BLINDS FOR GLASS-HOUSES.

HERE is an apparatus described which will prove a capital thing for keeping the operating-room cool in summer, warm in winter, and always protect it from hail. We are indebted to Mr. L. M. Whitney, Batavia, Ill., for it, and describe it in his own words. He is entitled to many thanks and much credit. He writes as follows:

"In reading of the severe hail-storm your city was visited with last May, and the damage it did to those who 'live in glass-

houses,' I felt that I had too good a thing to keep from your notice.

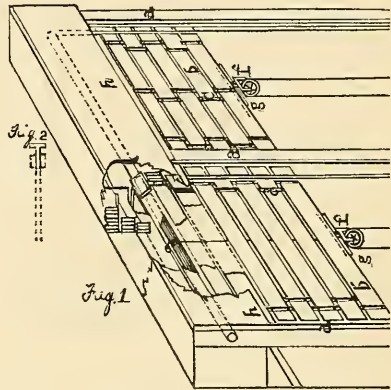
"It consists of blinds or shutters so arranged that I can stand in my operating-room and open or shut them in a very few minutes. When not using the light they can be drawn, keeping the room cool. I can let on more or less light as I choose. The slats are fastened together with webbing, one strip over and one under, making a joint that will fold either way without any trouble; will pack themselves away as perfectly as you see them in the drawing. The box they fold into is covered up, keeping them dry when not in use. Any good workman can apply them to almost any skylight. The cords pass over pulleys down into the room on both sides; the one under the slats, when drawn, passes over the roller in the groove made for it to draw the blinds off.

"It is entirely an original thing with me, yet it may have been *patented* for years. If not covered with a *patent*, and you think it worth a notice in the *Photographer*, you are at liberty to use it.

"My light being 12 x 16, the blinds are divided into three sections (would recommend four, however, for so large a light), yet I draw mine without any assistance when the grooves are properly greased with tallow.

"It is made entirely of pine; the end-rails, *a a*, are $1\frac{1}{4}$ x 5 inches, the middle ones 2 x 5, grooved $\frac{1}{2}$ x $\frac{1}{2}$ inch, $\frac{3}{4}$ inch from top of rail (see Fig. 2), and fastened to the skylight with irons to fit the angles, and screwed on. The blinds, *b b*, are $\frac{3}{4}$ x 3 inches, hinged snugly together with heavy boot-webbing, *c*, over and under alternately, making a perfect hinge, the webbing well fastened with good-sized tacks driven obliquely near the edge, webbing and all well painted; they are drawn by cords, as seen in Fig. 1, passing through the pulleys, *f f*, which are screwed to the strips, *g g*, under the first slat, back through the other side, over a pulley down into the room below. The strip, *h h*, covers the space over the pulleys when down. The cord that draws the blinds off is fastened to the strip, *g*, passing back under the blinds, over rollers (which are 4 inches in diameter at ends and centre, with groove for

cord), and passing down into the room. In drawing them back they fold nearly as perfectly as shown in the cut, upper section, the partition between being removed to show



the end of slats. The figure also shows end of rails cut out back of roller to let blinds down. The third section could not drop, but runs up an incline of 10 inches, forming a box above the rail, working but a trifle harder. I have braces over the centre rails, with a rod passing through the sash, making it very firm, also blocks fitted over the pulleys, *f f*, to keep the cord from running off.

"I intend to put the same blinds on my side-light. My glass-room is as cool, with the blinds drawn in a hot day, as any other room.

"Hoping it may be the means of protecting many a glass-house from stones, I most respectfully and freely submit it to the numerous readers of the *Photographer* for their use.

"L. M. WHITNEY.

"BATAVIA, ILL., June 5th, 1870."

USEFUL DARK-TENTS.

I HAVE seen several varieties of tents for field-work described in the *Philadelphia Photographer*, some very good, but here is a description of mine, which, for simplicity, cheapness, and convenience is all that can be desired. I do not know whether it is new to many, but it may be to some. If you think it worth inserting in your Jour-

nal it may be of use to some that don't feel able to get a more elaborate contrivance.

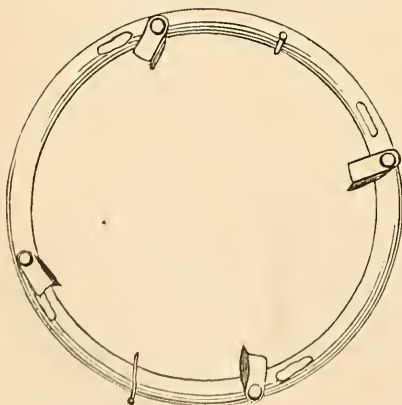


Drive a stake in the ground so that it will be about three feet high; now take a common umbrella, tie the handle firmly to the stake, then place a double sheet of black and yellow calico over it, a small hole in the centre for the point of the umbrella to pass through. The entrance may be at either side. The bottom of the cloth reaches the ground, and upon it stones can be laid, or it can be pinned down. A square cut out of the black cloth leaves a yellow window for proper light to enter. The sketch of the arrangement will make all plain.

WILLIAM H. KIBBE.

JOHNSTOWN, N. Y., June 2d, 1870.

I ALSO have a dark-tent which I find very convenient, and I need only send you



drawings of the framework to make it

plain. Here they are. A circular metal or wood top-piece, by which the pointed



legs are fastened together, and over all the usual black and orange cloth is thrown.

E. A. KUSEL.

OROVILLE, CAL., June, 1870.

SOLAR ENLARGEMENTS.

THE Exhibition established one fact, namely, that in the branch of photography pertaining to solar enlargements, America is far ahead of Europe. The examples sent from abroad were very far inferior to those exhibited by our own photographers. Dr. Vogel specially noticed this, and pronounced those by Mr. Albert Moore, of this city, to be "by far the finest enlargements he ever saw, and very superior to anything at the Paris Exposition." A few years ago we held that no solar camera print could be as good as one from a contact negative. Those who saw Mr. Moore's prints at Cleveland will agree with us that it would not be safe to make such an assertion now.

Our readers who have not yet offered large work to their patrons should do so. For a very small sum the five selected prize prints, all life-size, could be obtained from

Mr. Moore; they would make fine specimens (embracing an assortment of men, women, and children) for any reception-room, and be almost certain to lead to a good many orders that would otherwise slip by and the profit be lost.

We shall soon continue Professor Tower's series of articles on enlargements.

Acceleration of Exposures.

BY M. CAREY LEA.

AN interesting communication lately made to the French Photographic Society by M. Bazin, has led me to make some experiments which promise valuable results to both those who use the wet and the dry processes.

M. Bazin proposes to reduce exposures by placing cells in the camera front containing a red liquid, and by thus admitting red light to the film, affirms that he considerably reduces his time of exposure and gains detail in the shadows. The cells, four in number, contain a solution of carmine in ammonia, and are regulated by diaphragms.

The principle on which this proceeding is founded is not new, but will be found explained in Becquerel's *La Lumière* (vol. ii, pp. 77, 78). The less refrangible rays, red and yellow, whilst having no "exciting power," possess a "continuing power."

It appeared to me when I first read these experiments, that if red light were admitted into the camera it would exalt the action of the light of the image, whilst itself incapable of acting alone. Thus it would simply stimulate the impression of the image and cause the desired impression to be produced in a shorter time.

I did not, however, carry out these ideas, and M. Bazin is entitled to the credit of having just put them to practice. But the method which he employs seems to me not very convenient or suitable; certainly not for landscape work. I have, therefore, adopted a very different method.

I make a rather dilute solution of carmine in water, to which a few drops of liquid ammonia have been added, and paint this solution over a piece of white pasteboard or stiff paper till I bring it to a bright pink or light

rose color, and with this paper I line the inside of the camera, avoiding, however, to place it against parts corresponding with strong lights. It is always to be recollected that the circle of light of a lens is larger than the back of the camera, consequently part of the image falls on the sides. If now this rose-colored paper were placed where the image of the sky, or of any other high light falls, the reflection would be too great, and there would be danger of fogging. Generally speaking, the paper may be placed advantageously opposite those parts where the lighting is insufficient.

As yet I have made but few trials. The results indicate decisively that the strength of the image is materially increased, and that this device will be useful in all cases where very short exposures are wanted. Where a full exposure can be given, the advantage is less decided, but for rapid work the advantage is incontestable.

To ascertain if the red color was really an active agent, a careful comparison was made by substituting *white* paper as in the old method lately revived by Mr. Blair's experiments, and it was found that the red unquestionably had a peculiar and advantageous influence.

It seems not improbable that this method may be valuable for portraiture as well as for landscape work, by shortening exposures and gaining detail.

THE PHOTOGRAPHIC COPYRIGHT LAW.

THE photographers of America are again indebted to the National Photographic Association. The committee appointed in Boston to intercede with Congress for a National copyright law, protecting photographers in the exclusive sale of the product of their negatives from piratical stealing, succeeded in their mission, through their energetic chairman, Alex. Gardner, Esq., of Washington, and below we give a synopsis of that part of the new Act, approved July 8th, 1870, which pertains to photography.

Heretofore there really was no copyright law which covered photography, but the present one is all that could be desired. An-

other important change has been made, as will be seen, namely, copyrights are furnished and sealed by the *librarian of Congress*, instead of the clerk of any District Court.

THE LAW.

SECTION 86. Any citizen of the United States, or resident therein, who shall be the author, inventor, designer, or proprietor of any photograph, or negative thereof, and his executors, administrators, or assigns, shall, upon complying with the provisions of this act, have the sole liberty of printing, reprinting, publishing, completing, copying, executing, finishing, and vending the same.

SECTION 87. Copyrights shall be granted for the term of twenty-eight years from the time of recording the title thereof, and they may also be extended and assigned the same as patents.

SECTION 90. No photographer shall be entitled to a copyright unless he shall, before publication, deposit in the mail a printed copy of the title of the photograph for which he desires a copyright, addressed to the librarian of Congress, and within ten days from the publication thereof, deposit in the mail two copies of such copyright photograph, to be addressed to said librarian of Congress, as hereinafter to be provided.

The titles aforesaid are recorded in due form in a book, by the said librarian of Congress, and he shall give a copy of the title under the seal of his office to said proprietor, whenever he shall require it.

SECTION 92. For recording the title of any photograph, the librarian of Congress shall receive from the person claiming the same, fifty cents, and for every copy under seal actually given to such person or his assigns, fifty cents.

SECTION 93. The proprietor of every copyright photograph or negative shall mail to the librarian of Congress, at Washington, within ten days after its publication, two complete copies or prints thereof of the best edition issued, and a copy of any subsequent edition where any substantial changes shall be made.

SECTION 94. In default of such deposit in the post-office, said proprietor shall be liable to a penalty of \$25, to be collected by the librarian of Congress.

SECTION 95. Any such copyright photograph may be sent to the librarian of Congress by mail, *free of postage*, provided the words "*Copyright Matter*" are written or printed on the outside of the package containing the same.

SECTION 96. The postmaster to whom any such copyright photograph is delivered shall, if requested, give a receipt therefor, and when so delivered, he shall mail it to its destination, without cost to the proprietor.

SECTION 97. No person shall maintain an action for infringement of his copyright, unless he shall give notice thereof by inscribing upon some portion of the face or front thereof, *or on the face of the substance on which the same shall be mounted* the following words, viz.:

"Entered according to Act of Congress, in the year —, by A. B., in the office of the librarian of Congress, at Washington."

SECTION 98. Any person impressing such notice upon any photograph for which he has not obtained a copyright, for so offending, shall forfeit and pay \$100.

SECTION 99. Any person infringing a photograph copyright shall forfeit all copies to the proprietor, and also suffer suit for damages by said proprietor in any court of competent jurisdiction.

The above gives all the important points of the law, except in cases of assignment or suit, and gives the photographer all the protection he could ask, as well as a very easy and cheap way of securing it.

We know, from the correspondence we have had with Mr. Gardner on the subject, that the matter caused him to take a good deal of time from his business to secure the promise from the Committee on Patents to do what has been done, and also to watch that we were not forgotten. Even after the act was printed, interpolations were made in your behalf. Many thanks, then, are due to Mr. Gardner for his efforts, crowned with such great success.

NOTES IN AND OUT OF THE STUDIO.

BY G. WHARTON SIMPSON, M.A., F.S.A.

*The National Photographic Association—
Photo-Crayons, toning and coloring them—
Photo-Relief Printing Process—Carbon
Printing—Exhibition in Paris.*

LONDON, July 1st, 1870.

The National Photographic Association.—I have just read, with much interest, the various reports and articles in the Cleveland daily papers; the *Plaindealer*, the *Herald*, and the *Leader*, and also in the letters of friends, of the very successful Convention of the National Association. The accounts of the fine exhibition of photographs, of the grand lantern displays, of the photo-relief work, of the addresses and speeches, and above all of the perfect comity and harmony which prevailed, induce a strong longing to have been present. I congratulate my friend, Dr. Vogel, on his good fortune; I know his bright enthusiastic temperament, and how keenly alive he would be to all the pleasant influences around, especially as they all told of the progress, past, present, and to come, of his beloved photography. The great success of this meeting of the Association I regard as very significant. The glamour of novelty no longer gilded the Association. The first meeting, little more than a year and a half ago, was simply to organize; and this purpose is always sufficient to develop the energy of a healthy mind with a faith in the purpose in hand. The second meeting at Boston, twelve months ago, evoked something of curiosity as well as duty, and the question doubtless occurred to many minds, "Will this thing go on, or fall through?" But at Cleveland the conditions are altered; the thing is *in fact accomplished*, the success of the Association is no longer a problem, but in all human probability must steadily progress until it enrolls every photographer in the States, *who is worth having*, amongst its members. My last occupation before commencing this letter, was writing an article calling the attention of English photographers to the success of the Association, and asking them to consider how far a similar organization may be desirable and possible in this country. Our

circumstances are somewhat different; but should our photographers think it worth the attempt, they begin with an example of success to guide them.

Photo-Crayons.—Amongst the novelties taking the attention of American photographers at the present moment, I understand that the new photo-crayons, introduced by Mr. Sarony, are not the least interesting, both as supplying fine artistic results, by a small expenditure of means, and as promising to be commercially remunerative. One or two hints in connection with the subject, the lessons of experience on this side, may not be out of place here. The simplest means of securing a black tone in the enlarged transparency, is by means of bichloride of mercury and hyposulphite of ammonia. But it should be remembered that whilst it is one of the simplest and easiest, it is one of the least trustworthy. It is not always permanent; the black salt of mercury formed is not stable, and the pictures not unfrequently bleach. It is well known that all the salts of mercury are unstable, and for my own part I recommend their avoidance generally. The most easy method of securing a stable purple black tone, is by means of a neutral solution of chloride of gold. Nothing can exceed the rich intense neutral black which can be obtained by means of the bichloride of platinum, when rightly managed. A very dilute solution should be used. One grain of the platinum salt in from fifteen to twenty ounces of water, will be found sufficient. The solution should be first neutralized with carbonate of soda, and then very slightly acidified with nitric acid. The toning will take place slowly; but a very fine neutral black is obtained. In this case it is not necessary to fix again for the purpose of removing the chloride of silver formed. It will be understood, of course, that as the platinum is deposited, the chlorine released attacks the metallic silver forming the image, and converts it into chloride of silver, which being white, gives a gray tint to the platinum superposed thereon. When the picture is exposed to light the chloride of silver is gradually blackened. But as there is no silver at all in the whites these remain pure, whilst in the shadows and half

shadows, the silver present being blackened, the richness and intensity of the photographs are increased. The scale of the picture is practically increased as the whites remain the same, and the blacks in due gradation become a little deeper.

When all the chemicals are in good condition a fine color can often be obtained without toning. A strong bath, somewhat new, in good working condition, full exposure, a developer containing two grains of pyro, one grain of citric acid, and twenty minims of acetic acid, will give a good tone. The chief difficulty consists in the fact, that in untuned pictures the detail in the shadows is often apt to be lost. It is seen very well by transmitted light; but does not "bear out" by reflected light; but looks smoky and opaque. A skilful and trustworthy photographer assures me that this defect may be considerably overcome, by adding to the developer citrate of iron, two or three grains to the ounce. I need not here refer to the fine brown tones which may be obtained by means of Selle's intensifier of nitrate of uranium and ferri-dicyanide of potassium.

Some very fine effects may be obtained by tinting these portraits. This is easily effected by applying the color to the backing paper containing the hatched vignette. To obtain exact register of the image on this paper becomes of vital importance, and a friend of mine has devised a simple and ingenious method of securing this. He places a piece of transparent tracing paper, or any suitable thin paper over the image, and with a soft black lead-pencil traces all the outlines of the face, hair, drapery, etc. He then places this pencilled outline on the tinted back intended to be used with the picture, and passes the two through a rolling press; the result is a faint outline of the image, transferred to the backing paper from the lead-pencil marks. It is easy then to place the tints in the right position, and to secure the effect of a very highly finished drawing, by a comparatively small expenditure of labor.

The Photo-Relief Printing Process.—Whilst I am referring to photo-mechanical printing processes, I may mention as a point of interest that the Woodbury process, which

has suffered very much in this country by getting into bad commercial hands, and has consequently had two or three false starts, is now likely to have a chance of success. The late company being now in course of liquidation under the direction of the Court of Chancery, the patent, plant, and everything connected therewith, has been sold. The purchaser is Mr. Vincent Brooks, the principal of an old-established lithographic firm, who has also given some attention to photo-lithography. An old-established and extensive photographic printing and publishing firm will, I understand, join him in the working of the process. The practical lesson of this bit of gossip is, that shrewd men of business, accustomed to extensive operations in the printing and publication of pictures and illustrated works, see the importance of this process, and that there is little doubt that it will now rapidly take its due position in this country, from which it has hitherto been debarred by very bad commercial management, or rather mismanagement. Mr. Woodbury shortly proceeds to Russia, to teach and initiate the process, where it will be worked, I believe, under the auspices of the government department.

Carbon Printing.—The mention of a government department in connection with photography reminds me of an interesting fact in connection with carbon printing. The extensive photographic operations in connection with the military department in this country will henceforth be conducted in carbon instead of silver. Mr. H. Baden Pritchard, superintendent of the photographic department at the Royal Arsenal, Woolwich, informs me that they have finally discarded silver printing, and adopted Mr. Johnson's carbon process, which they find simple, expeditious, and economical, as well as permanent.

Exhibition in Paris.—It will interest American photographers to know that some of the portraiture from the States takes a high position in the French Exhibition, the examples of Mr. Kurtz, of New York, being second to none exhibited. My French correspondent speaks in very high terms of them. It is very gratifying to hear on all hands of the rapid progress made of late in American photographic portraiture, never

bad, but apparently now bidding fair to take the lead in modern styles as it did at one time, undoubtedly, in the daguerreotype process.

PHOTOGRAPHIC WORLD.

THERE is war between the "Mezzotinters."

CYANIDE of potassium is obtained from defunct horses. So is ammonia and gelatine.

A GREAT number of persons are sued in England for copying engravings that are copyrighted.

OUR English and other foreign contemporaries think the Cleveland Exhibition was a grand success. They are right.

M. LE COG, the Treasurer of the Berlin Society for the Promotion of Photography, visits England and the United States.

MR. JABEZ HUGHES has issued a new edition of his excellent "Principles and Practice of Photography." We want to make some extracts from it soon.

ANTHONY'S *Bulletin*, in speaking of the Exhibition, says: "Evidently great advances have been made during the past year, both in plain photographs and colored work." So there have.

BLUE tissue-paper, pasted over the yellow glass of the dark-room, and covered with mastic varnish, will make the light that enters through *green*, without the necessity of green glass.—J. MARTIN in *News*.

LIGHT gives the following formula for making amber varnish: One ounce of finely powdered amber is dissolved in twenty ounces of benzine, and filtered. The plates do not require to be heated.

M. CAMUZET has made some practical experiments on retouching, and also on the coloring of positives on albumen paper.

"M. BAZIN affirms that the introduction of red light on the sensitive collodion film during its exposure, not only reduces the time of exposure one-third, but produces more half-tone in the picture, and brings out more details in the shade in the subject, than if the plate were exposed in the usual manner. Yellow

light produced no effect, blue, a general fog, but red, pure red, this curious effect. M. Davanne backed up M. Bazin, having seen him perform the experiments, to prove what he stated, and from all that passed at the meeting this is a *fait accompli*. How is it managed? Well, the sliding front of the camera brought by M. Bazin was for a whole-plate lens, or about that size, and at each of the four corners of the square front was a circular opening about two inches in diameter. At the back of each opening was a square glass cell, a *little* larger than the opening, and about one-eighth to one-fourth inch thick. This cell was filled with a solution of *perfectly pure* carmine in solution of ammonia, and sealed up. The carmine must be *quite pure*, or a violet tint will be imparted to the solution and to the light passing through it. The full aperture (two inches) of these cells is not always used, the artist using his judgment, according to amount and quality of light, class of subject, etc., whether he "diaphragms" them off or not. It is *not* so good to expose the plate itself under a large cell of red fluid before exposure, as to use the action of the red light in the way just described. I wonder whether further experiments and researches will confirm all this; or will it be consigned to the limbo where sulphate of quinine for windows of dark-rooms is or ought to have gone to? A picture was handed round in which was a dark velvet curtain in folds. In one picture the curtain was a mass of black, and this was said to have been taken *without* red light, whereas one with detail and folds was taken at the same time and under the same circumstances *with* red light. I here leave the matter with your readers, who will doubtless soon reap any advantage it may possess, and I hope will let their fellow-readers *know all about it* anyway."—*Cor. Br. Jour.*

PYROGALLIC ACID acts as a poison on the animal system similar to phosphorus, by withdrawing oxygen from the stomach. Precaution in using this substance is necessary.

VESSELS which have been soiled by albumen are best cleaned by a mixture of sulphuric acid and bichromate of potassium.

Editor's Table.

HOW TO BECOME A MEMBER.—Photographers who wish to be identified with the National Photographic Association, and to share its benefits, may do so by applying to Edward L. Wilson, Permanent Secretary, Philadelphia, Pa. Remitting \$4,—\$2 for entrance fee and \$2 for dues up to June, 1871,—and certificate of membership will be sent. Come, *now*, grow with its growth and share the honors.

BACK NUMBERS of this Journal can generally be supplied, as we are continually purchasing.

\$100 are yet wanted to cancel the debt incurred in the patent suits. Who will help pay it? Who will *not* help pay it?

ERRATA.—On page 257, line 2d, of our July issue is an error. The plate is dipped in distilled water, is *first exposed*, afterwards dipped again in the silver bath, and then developed. So says Dr. Vogel.

LEA'S MANUAL.—Nearly 1500 copies of this excellent handbook have been sold by the publishers, and the sale is yet brisk. Information on almost every useful subject may be found in it, and the chapter on "Defects and their Remedies" is invaluable.

ROBINSON'S PICTORIAL EFFECTS IN PHOTOGRAPHY.—A fresh lot of this inimitable work, treating on lighting, posing, composition, double printing, etc., has just been received from England. There are several photographic illustrations and numerous wood-cuts. (See adv.)

MR. H. J. NEWTON has favored us with a number of exquisite transparencies, made as described recently by our New York correspondent, and promises soon to give us further and full details of their production. A good color or tone for transparencies is hard to secure, but these are very rich.

THE EXHIBITION PICTURES.—Photographs of the group ordered by parties at the Cleveland Exhibition have been all sent, and also to all those who have ordered up to date. Very fine large ones of the interior, and also other sizes are now ready and can be posted at once. Read the advertisement in Specialties and purchase all you can, for the profit all goes to swell the Relief Fund, in which you are all interested.

GOSSIP.—German and all kinds of albumen papers have advanced, or are about to advance,

on account of the war in Europe. All the plain paper comes from Germany.

MR. JOHN CARBUTT, who has been so many years the popular photographer of Chicago, has sold out his beautiful establishment to Mr. S. W. Sawyer, of Bangor, Maine, and will move to Philadelphia in September to devote his whole time to the development of Woodbury's photo-relief process. Mr. Sawyer goes to Chicago, September 1st. Much success to them both.

Several photographers already are printing "N. P. A." on their cards. We hope to see the new design in a few weeks. Will not those having taste in such matters hand in their designs this month?

A letter was directed to our care, while in Cleveland, to R. S. Ewing. We know him not, and he can have his letter by sending us his address.

MR. SEWELL F. GRAVES, Howland Flat, Cal., was burned out June 21st.

MR. J. W. BAYS, Canton, Ill., writes: "With your Journal, *Mosaics*, and a little bit of sense, any one can make good work."

We have seen some very pretty photo-lithographs by the "Rye" process made in New York by Mr. D. H. Anderson.

The photographers of St. John, N. B., have formed a photographic society, with Mr. J. D. Marsters as President. We commend them to all sister societies. They invited Dr. Vogel to visit them.

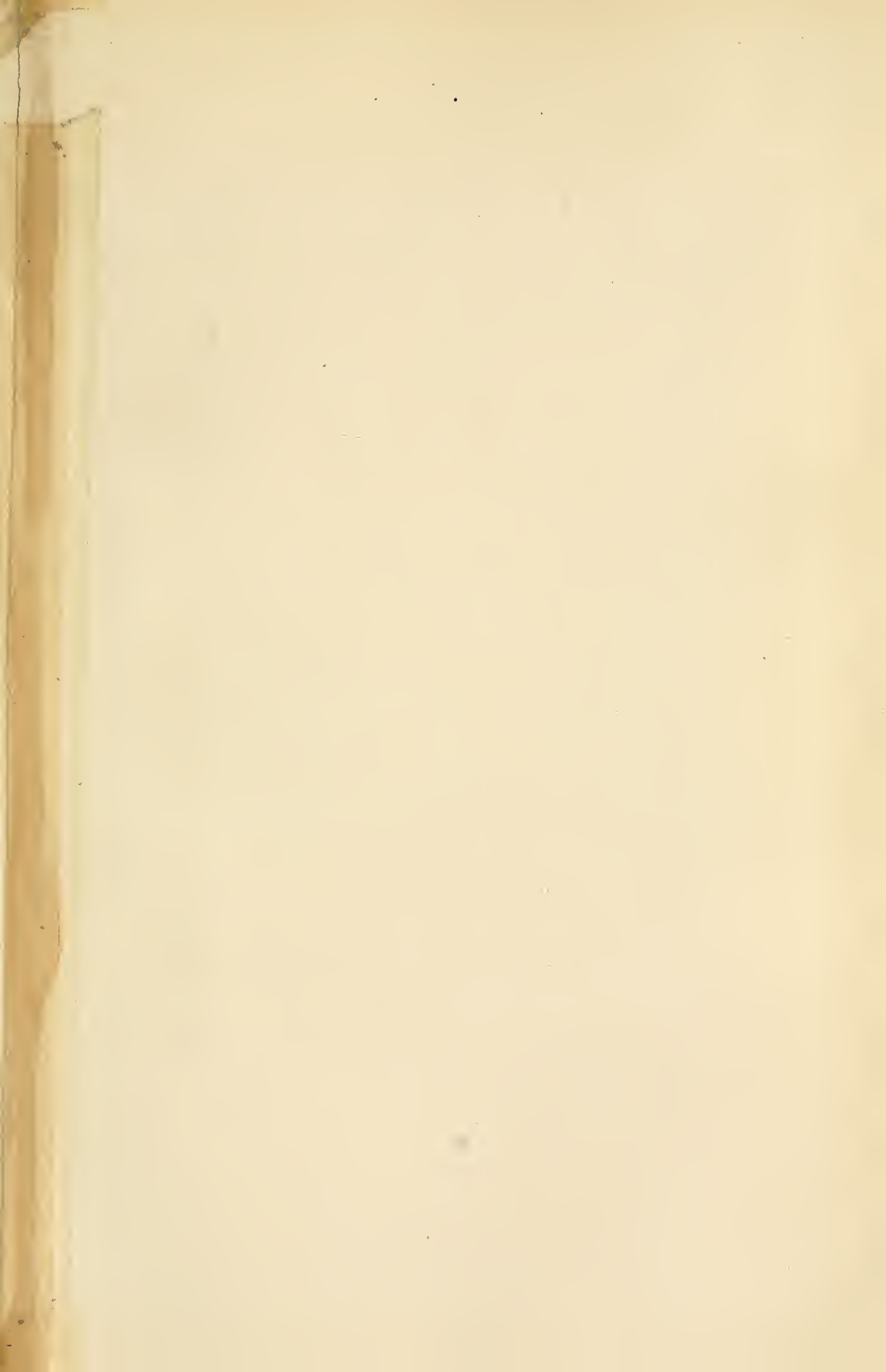
A disinterested photographer in Montreal says: "Those who helped Mr. Lovejoy in his brave defence against the Shaw & Wilcox Co., deserve a marble monument two hundred feet high erected to their memory."

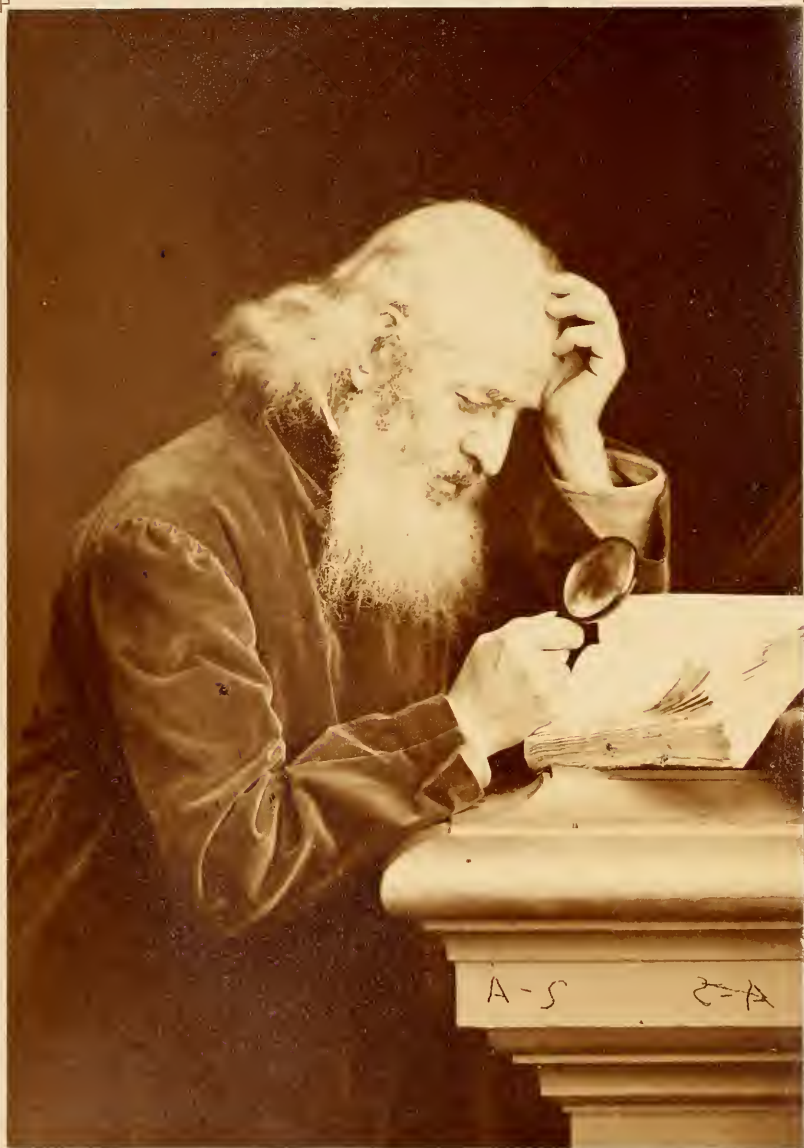
ANSWERS TO CORRESPONDENTS.

WE cannot consider communications minus the name of the author.

THE "CALIFORNIA ENAMELLING PROCESS" was given in full in our issue for April, 1869, page 111, and we believe it to be as good as any hawked around for sale.

FOCUS, JR.—1. Your bath is all right. All toning baths turn purple by use. 2. Your negative bath is all wrong. Add a solution of bicarb. soda until it turns red litmus-paper blue; then filter and add a little acid. 3. In giving formulae for collodion, the number of grains given for the iodides, etc., is for one ounce of plain collodion. Use your brains and think.





ADAM SALOMON, *

Boston Public Library.

PARIS.

T H E

Philadelphia Photographer.

Vol. VII.

SEPTEMBER, 1870.

No. 81.

Entered, according to Act of Congress, in the year 1870,

By BENERMAN & WILSON,

In the Clerk's office of the District Court of the United States for the Eastern District of Pennsylvania.

THE RELIEF FUND.

THE members of the Board of Trustees of the Relief Fund have drawn lots for their several terms of service, and before this reaches our readers will have held their first session and organized. Full particulars shall be given in our next. Already nearly two thousand dollars are in hand as a nucleus for the fund.

Meanwhile, permit us to appeal to our readers to do what they can for this fund, for no one knows who will need to require its assistance.

M. Niepce de St. Victor devoted forty years to the interests of photography and died poor.

Mr. N. G. Burgess, once prosperous and famed in photographic circles, died without any means. How will it be with you?

One good way of helping the fund in a small way is by purchasing the pictures of the Boston and Cleveland Exhibitions. These are doubly interesting to those who were present, to every exhibitor and visitor, and as examples of photography are valuable to all. You can throw several dollars into the fund in this way, and yet suffer no loss. Both the groups of members and officers, and the views of the interior, are worthy of being hung on the walls of any studio. Shall they not be purchased liberally?

PHOTOGRAPHIC DIALOGUES.

(SEQUEL TO ONE HUNDRED DAYS IN A FOG,
ETC., CONTINUED.)

BY ELBERT ANDERSON,

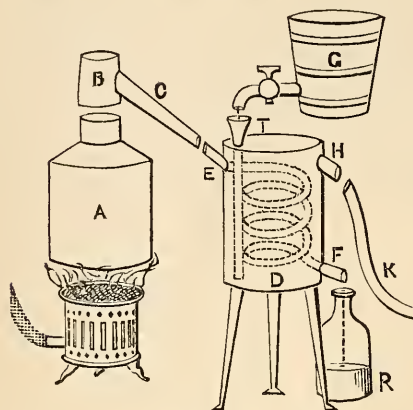
Operator at W. Kurtz's Gallery, 872 Broadway, N. Y.

Evening the Third.

A. The solution of nitrate of silver in water, in which the plates are dipped, is known, technically, as the negative bath, in contradistinction to the positive or printing bath, upon which the paper is floated for the print. The negative bath, then, consists of a solution of nitrate of silver in water, to which is added an iodide and an acid. It is essential that all the ingredients be in a state of purity as near as may be.

WATER.—In nature, water is never found perfectly pure. The simplest, cheapest, and best method of obtaining pure water is to distil it yourself. If you cannot procure a little still at your stockhouse, you may very easily get any tinman (who deserves the name) to make you one, at a cost not exceeding ten dollars, which will enable you to distil enough water far purer and at half the cost you would have to pay to procure it elsewhere; and of which you can soon and readily sell enough to your brother photographers to pay for your still and the cost of running. I will make you a drawing, and describe the method of using it.

Let the parts A, B, C, represent the *boiler*, *boiler head*, and *stem*, which are to be made of copper, tinned on the inside. The boiler,



A, may be 12 inches high and 10 inches in diameter. The head, B, may be four inches high and three inches in diameter, and fits the boiler like any ordinary tin can cover.

M. Must it not fit perfectly steam-tight?

A. Not necessarily. Let it be simply a nice fit. The stem, C, may be $1\frac{1}{2}$ inches in diameter, tapering to $\frac{3}{4}$ inch, and 18 inches long. It is made to fit into the *worm*, E F, which consists of a tube of *block tin*, about $\frac{1}{2}$ inch interior diameter and six feet long, coiled up in the common tin *condenser*, D, as represented, soldered water-tight where it enters and where it leaves the condenser. T is a tin pipe $\frac{1}{2}$ inch in diameter, soldered to the inside of the condenser, reaching down to within half an inch of the bottom. H is a tin pipe $\frac{1}{2}$ inch diameter and 3 inches long, and is intended as an overflow pipe. Use as follows: Clean thoroughly, and pour into the boiler a quantity of water equal to one-fourth its capacity; set this over a gas stove or any other convenient fire; fit on the head and connect the stem with the condensing worm. When the water boils, drops of distilled water and steam will issue from the orifice, F, which may be caught in the *receiver*, R. At this moment, a stream of running water must be let on in the pipe, T, from any suitable reservoir, and when the condenser becomes full the waste water will escape by the overflow, and can be led away as desired. The steam passing down the cooled worm

is instantly condensed, and drops out as distilled water into the receiver.

M. Why do you put so little water in so large a boiler?

A. Because, if you were to fill it with cold water in the first place, it would take a very long time to boil, whereas this small quantity will boil in one-tenth the time. When fairly started, suffer the water (which will escape at H nearly boiling hot) to run into a bottle, and when this is full remove the head of the boiler and pour this in. You need not remove the boiler from the fire. And thus you can gradually begin to fill up with nearly boiling water. Throw away the first pint or so of distilled water, as it is generally impure.

With this little contrivance, you can easily distil from three to four gallons of water per day. The next best, after distilled water, is to take clean blocks of *pond* ice, and melt it in an evaporating dish.

M. Why is this thus?

A. Water, in the act of freezing, separates completely from everything which it previously held in solution; even the air contained in water is expelled in the act of freezing, and becoming entangled in the thickening fluid, gives rise to the minute bubbles generally observable in blocks of ice. It is found as a fact, that ice formed by the freezing of *sea* water is, under all ordinary circumstances, fresh and *entirely free of salt*. Thus the great ice fields of the Arctic and Antarctic Oceans are always composed of *fresh* water ice. Make a solution of indigo in water, and the ice formed by the congelation of this solution will be *perfectly colorless*.

M. And in summer, when I can get no ice?

A. Then take the best water you can get, and add forty to fifty grains of nitrate of silver to every gallon of water; when dissolved, expose it in a clean white glass bottle (candy jars answer excellently) to strong sunlight, covered with a piece of glass, tied down to prevent the wind disturbing it. The water will shortly begin—say in an hour—to discolor, and will finally grow perfectly black, according to the amount of impurities. Pure water will not discolor if exposed to sunlight, even when pure nitrate

of silver is dissolved in it. When the water has become *perfectly clear*, it is ready for use.

NITRATE OF SILVER, or, strictly speaking, nitrate of the oxide of silver, can be procured sufficiently pure, of several brands well known in market, from the stock-houses; therefore it is neither necessary nor advisable for you to make it. Yet I hold that every photographer *ought* to know how to prepare it, in an isolated case of emergency. Here is one of the simplest methods when pressed for time: Make a mixture of one part of nitric acid, chemically pure, and two parts of distilled water; put this in an evaporating dish over a gentle heat, and add from time to time, as it dissolves, silver coin cut into very small pieces, until a small portion of metallic silver remains undissolved. The action here may be stated, by saying the nitric acid is decomposed; one part oxidizes the metallic silver and suffers the escape of oxide of nitrogen, the other part combines with this oxide and produces the nitrate of the oxide of silver, or, as we call it "for short," nitrate of silver. When the necessary amount of silver is dissolved, evaporate the solution to dryness, and when cool dissolve it in pure water. Separate one-fifth of this solution, and add to it drop by drop a solution of caustic potash in water, until the dense brownish-black precipitate (oxide of silver) ceases to be thrown down, and the potash remains in excess. When this has settled, pour off the water, and add fresh water to wash the oxide; repeat this until all trace of the potash has disappeared. Now add this moist oxide to the other four-fifths of the solution, and boil it until a drop of aqua ammonia added to it ceases to strike a blue color.

M. What is the cause of this blue color?

A. It is caused by the aqua ammonia coming in contact with nitrate of copper, which was also formed, the silver coin always being alloyed with copper. Again evaporate the solution to dryness, and then fuse it. The organic matter, if there be any, will be thrown down as a black powder on the sides and bottom of the dish during the fusion, becomes carbonized, and is thus rendered insoluble; whilst the nitrate of

copper becomes decomposed by strong fusion, an insoluble oxide of copper is left behind, which may be filtered out when the mass is again dissolved in pure water. You may now, if you like, crystallize it, or use it at once.

M. What is the cause of crystallization?

A. There you have me. I don't know. It is supposed that the atoms and molecules which make up a body of a crystal are possessed of polarity.

M. What's *that*, when it's fenced in?

A. It is supposed that the opposite sides of the atoms are like two poles of a magnet, and that this action or *force*, as it is called, compels the atom, in assuming its place in a crystal, to maintain a certain direction as respects the contiguous particles. In the case of pure silver and chemically pure nitric acid, the solution, after evaporating to dryness and fused, can be used at once.

M. How will I know when it is fused?

A. When the silver is fused, it will have the appearance of a heavy oil or syrup, which will remain perfectly quiet on the bottom of the dish without bubbling or steaming. Whilst in this state, dip into it a slight splinter of wood or a bit of clean straw. If it (the straw) immediately take fire, the silver is fused enough; if not, continue the heat until it does inflame. When cool, the fused mass may be dissolved in pure water with the aid of gentle heat, and, as before mentioned, used as if it were crystals.

I would urgently recommend you to use a capacious bath-holder, certainly not less than two gallons, however little work you do. I use two of four gallons each.

M. Yes; but for me, who do so little negative-making as compared with you, why should I use so much? These large baths are rather expensive.

A. There you make a great mistake. The smaller your bath the more it costs you.

M. Now you are speaking paregorically.

A. You mean paradoxically, perhaps.

M. Well, *paradoxically*, then. What's the difference in the long run?

A. I will explain myself. 1st. If you use a small bath, it will soon get out of order, and cost you *time* to fix it again.

2d. It becomes out of order from organic matter, introduced by dust from the air, dirt from the plates, and chemical compounds in and on the collodion film. 3d. It becomes soon over-iodized. 4th. It requires frequent filtering, and every time you filter you encounter severe loss: (1, by that portion of the bath remaining in the bath-holder when it is poured out to filter; 2, by that portion which remains in the saturated filter; 3, by that portion that remains in the bottle into which it is filtered.) 5th. By fusing after it is badly contaminated. 6th. By its losing strength rapidly, thus requiring strengthening, causing an unequal action, to say nothing of the grave error of adding *new* silver to an *old* bath. Now, all this is obviated by the use of a large bath, which will work uniformly for a long time, and yield cleaner work.

M. All right; a large bath be it.

A. I would further urgently recommend your using two or even three baths, so that when one shows signs of failing you may go on with another, until the sick one is cured at your leisure.

M. What are these signs of failing?

A. Never mind that now. We will work our bath first until it gets out of order, then will be time enough to attend to that department.

M. Are rubber bath-holders all that's suitable?

A. I am hardly a fair witness to examine in this case. I am prejudiced, having formed an opinion.

M. And no doubt an opinion as is an opinion.

A. I would *advise* you, however, *not* to use a rubber bath, except for occasional use out of the gallery, taking dead babies, gravestones, and such. I only make this exception, because it is less likely to get broken, is much lighter and convenient to carry the solution in, having a water-tight top. I use Lewis's patent. I had them made expressly for me, with this little device, namely: I ordered them *double width*, consequently they are scarcely any larger than a *two* gallon bath, and yet hold *four* gallons. They generally leak at first; look out for that. Fill them with water until the wood soaks up tight, wash them out

with hot water and soda, finally with cold water, and turn them over to drain. Having measured the capacity of your bath-holder, dissolve nitrate of silver in water until your hydrometer indicates forty grains of silver to the ounce of water, in summer, and forty-five grains in winter. Make up rather more than twice the contents of your bath-holder.

M. By the by, I want to ask you something that is a great puzzle to me.

A. Go it.

M. My hydrometer is a double one; that is, it indicates 30 when it really means 60. Why is that?

A. When I first had occasion to use this instrument the same thing struck me, also, and I asked all my photographic friends and several druggists the reason. Strange to say, none of them could tell me. Being of an inquiring turn of mind, I continued my researches, and even the importers could not enlighten me. Finally, I asked a maker in Fulton Street, New York. "Well," said he, "I do not. I've allers made 'em so; but when yer ax me *why*, then yer got me." I intend to ask Wilson under the Sphinx column.

Now reduce your solution with water to 30 grains to the ounce. This solution has the property of dissolving and retaining in solution a certain amount of iodide of silver. *This capacity of the solution to dissolve iodide of silver is in proportion to, and increases with, its strength.*

M. Here, easy now. Say that over again.

A. Take, for instance, four ounces of a solution of nitrate of silver in water, of any strength—say 40 grains to the ounce; next dissolve 10 or 20 grains (the quantity is immaterial) of iodide of ammonium in water, add a little of this at a time to the four-ounce solution of silver; immediately a dense precipitate, of a yellowish color (iodide of silver), is thrown down, and floats on the surface of the solution; but, upon shaking the solution, the iodide is dissolved and the solution becomes clear again. Repeat this until the solution refuses to clear and remains milky, when some of the iodide will fall to the bottom. The solution is now said to be *over-iodized*; that is, it contains more iodide of silver than it is capable

of dissolving, and the surplus falls to the bottom. It will, however, filter out perfectly clear, the surplus iodide remaining in the filter. The solution is now said to be *saturated*. If you now pour this clear solution into an equal quantity of pure water, it immediately throws down one-half the iodide of silver, the solution becoming again milky, and is, in fact, *over-iodized* as before, *yet it has given up half its iodide*; because, as I told you, the solution is only capable of dissolving iodide of silver in proportion to its strength, and as it is now reduced one-half it cannot retain but half the iodide.

M. Thanks; that's as plain as the nose on your face, or rather on *my* face. I've got an awful bugle; ain't I?

A. Your nose be blowed. Listen to me. If we now add nitrate of silver to make up the strength to 40 grains, this milkiness will disappear and the solution will remain as at first. You will understand by this, then, if we iodize the bath to saturation in the first place, every collodionized plate dipped in it causes the iodide in the film to come in contact with the silver solution, forming iodide of silver on and in the film; but as the bath is already saturated, you cannot add more without the surplus being precipitated and held in *suspension* (not *solution*, mark you) in the bath, and in a short time this surplus increases to such an extent that these little floating particles attach themselves to the surface of the plate. After the plate is developed and washed, these little crystals show but little, but when the plate is put in the fixing solution they are dissolved, and leave clear and transparent spots; sometimes a plate will contain millions of them, known under the name of *pinholes*. Each and every plate making the matter worse and no better fast.

M. I know the little jokers like a book. I've raised them by the acre.

A. On the other hand, if the bath contains no iodide, when the plate is immersed and the iodide of silver is formed on the film, a portion of it is immediately dissolved by the solution, thus giving a spotty appearance and yielding an imperfect negative.

M. Just so.

A. Therefore the proper thing to do is to divide the bath in halves, and saturate one-half, filter out the precipitate and mix it with the other half.

M. Sort of 'alf and 'alf like.

A. Now test with litmus-paper. It will generally be found to have an acid reaction, caused by the silver not being perfectly freed from acid in its manufacture. If acid, dissolve bicarbonate of soda in pure water, and add this little by little to the solution, which will again turn milky from precipitated carbonate of silver. When it shows an alkaline reaction, it may be put out in strong sunlight without filtering, until it becomes perfectly clear.

M. You believe in sunning a bath, then?

A. Well, not in your sense. We will come to that all in good time. Finally, it is put into an evaporating dish and boiled down to 40 grains to the ounce and filtered. Now make a mixture of one part nitric acid, chemically pure, and three parts of distilled water, add this little by little until the solution shows a *decided acid reaction*. Fill up your bath-holder, and your bath is ready to be tested. To do this, however, requires further chemical preparations, which must be deferred till our next meeting.

The Year Book of Photography.

WE desire once more to call attention to this excellent and really invaluable work of Mr. Simpson's, republished by us in this country. We hardly suppose there is a single reader of the *Photographer*, but who values much, the "*Notes In and Out of the Studio*," which appear in each issue from Mr. Simpson.

His *Year Book* is a compendium of just such information, on almost every useful subject, namely: Retouching, landscaping, optics, water, light, sitters, weak negatives, development, painting the windows, stippling the skylight, printing on canvas, collodion, the bath, things worth knowing, enlargements, lighting, oil photography, transparencies, pinholes, and so on, and so on, in inexhaustible variety.

The book is of the size, shape, and style of our own *Mosaics*, and makes an admir-

able companion. We are giving a great many away as premiums to those who are active in getting us new subscribers, and yet there are some left. Try to get a copy of your dealer before his stock is exhausted, and we cannot supply him with any more. Mailed for 50 cents.

SORE HANDS.

I HAVE been, heretofore, long and grievously troubled with sore hands, caused by handling chemicals, such as toning, fixing solutions, etc. I tried many remedies to effect a cure, but failing to do myself any good, I wrote to your *Journal* regarding it; it was published in your August No., 1867, I believe. In reply, Mr. M. Carey Lea, recommended zinc ointment. A brother photographer out West wrote me, recommending a weak solution of protosulphate of iron. I tried that without avail.

About ten months ago, I began to use an ordinary nail-brush, brushing my hands freely after having my hands in chemicals, such as toning, fixing solutions, etc.; the result was a rapid and complete cure, and from that time to the present, I have never been troubled with sore hands. I offer this to the craft, and trust, that if any are troubled with sore hands, they may derive benefit from this very cheap and simple remedy.

I believe sore hands are caused by the closing of the pores of the skin; and the utility of the brush (if this be the true cause) is at once evident, by giving a healthy action to the skin. The cure follows as certainly as effect follows cause. T. W. COWES.

BICHLORIDE OF MERCURY AS AN INTENSIFIER.

BY JEX BARDWELL.

I HAVE no doubt you well remember, while at the Convention in Cleveland, a member asking for information and others' experience in the use of mercury as an intensifier, and the fun the members made of it, when, in answer to the question how strong he used it, a gentleman answered, "Very weak, and in fact, that it could not be used too weak;" but, for all the

laughter, there appeared to be sufficient interest felt to raise a suspicion that it was used by many there present. And again the question was asked, that those present who obtained sufficient density and printing-power from their negatives with one application of the developer should hold up their hands, and quite a number held theirs up, and the questions were discussed pro and con. Now I take it that there is a lesson in this that would be to our profit to study. If we could only meet oftener, and have just such talks, it would be much to our advantage. We might disagree with the man who used mercury, but if he had pictures to show us made by his method that excelled, we would all go home and try mercury. I once used mercury, and will, by and by, tell you again how I used it, seeing what I said at the Convention about it was somewhat mixed by the reporter. Mercury, used as an intensifier, is much abused, and is capable of producing very different results, viz., a soft, brilliant negative; one so thin that it loses all value as a negative, and one of perfect density, suitable for the photolithographic process. Photographers who obtain sufficient density on one application of the developer, will find out by experience that, under certain circumstances, and to produce certain results, they will have to depart from that practice, and bring other forces into play. It is true that for some subjects, and under certain conditions, one application of the developer would be sufficient, and again, the most skilful of photographers sometimes fail to obtain a sufficient density even with the most intense of intensifiers. Mercury may be used on a stereo negative, producing the softest effect. From one so intensified, I have made hundreds of prints, and it is over six years old, and will to-day make as soft a print as when first made; but I have seen a negative that after printing a few dozen prints from it in sunlight, became so hard as to be useless. As I said at the Convention, I do not recommend mercury as an intensifier, but many use it, and are quite partial to it, and to them I give the formula that I use occasionally, and with care they will find the method useful. And I shall also give another formula of a different kind, that I think cannot be

excelled; but in fact almost every photographer has just such an article, one of the kind that can't be beat. You will often find a photographer looking for a lens that will do every kind of work, and thinks he has not got a good one because he finds some other lens will do some particular kind of work better than his; so with the developer and intensifier. You must modify them to suit the work in hand; see how many different developers, redevelopers, and intensifiers there are, that come well recommended by the men who use them. We must not condemn because they fail in our hands. The one we think most of may be the very worst one of the lot. The one that we cannot manage at all may, in some other hands, produce results that would put us fairly to shame.

I do not think you will find that the man who scorns the use of a redeveloper or intensifier occupies a first-class position; so many circumstances occur that make it necessary to employ the force that they place at our disposal. There was a time when I made a collodion bath and developer that worked well together, in giving sufficient density, to produce those old black and white pictures that were at one time thought so desirable, and I was very proud; but I have had that conceit taken out of me very effectually. I now manage my chemicals so as to give me softness and detail, using my redeveloper or intensifier, as the occasion might require, to produce force and brilliancy. But enough of this. I will now give the two formulæ. Mercury is not used as a redeveloper, but as an intensifier. The formulæ below are for a portrait or landscape, and not for reproduction requiring considerable intensity.

No. 1.
 Bichloride of Mercury, . . . ½ ounce.
 Water, 20 ounces.

No. 2.
 Water, 20 ounces.
 Iodide of Potassium, . . 20 grains.

No. 3.
 Water, 4 ounces.
 Of No. 1, ½ ounce.

The negative is taken, washed and fixed, and washed well and DRIED. Then flow the negative with water, and flow it with

No. 3 just long enough to discolor the film, and well wash and flow with No. 2, and as soon as the dark film becomes evenly tinted with the solution, wash and dry. It will be found that the mercury has not penetrated through the film, but only just acted on the surface to which it was applied. On looking at the back of the negative it will be seen as before the mercury was applied, but the surface will show the creamy effect of the iodide of silver. On looking through the negative, it will be found to be of a dirty greenish-yellow and transparent, and, if properly done, will be found to give a soft brilliant print, and the negative will not change in the sun. I find many use a solution of bichloride of mercury and iodide of potassium mixed in one solution, but it is really a very bad intensifier for portrait negatives, and the negative will change in the light.

I will now add one more to the already large list,—a formula that I think hard to beat. I find it everything to be desired, both as a redeveloper and as an intensifier.

Take of

Coxe's Gelatine, . . . 2 drachms,
 Water, 2 ounces,

and soak for an hour or two, and then by a gentle heat dissolve, and add

Caustic Potass., . . . 2 drachms;

boil briskly for twenty minutes (best done in a Florence flask), set aside to cool, and neutralize with acetic acid, then make up to 12 ounces with water; this will keep for a considerable time. To use it, take, say two drachms of the above, and add to it an equal quantity of the iron developer you have in use, and set it by your side convenient to reach as soon as wanted. You develop your negative, and if wishing to use it as a redeveloper, you drop a few drops of a 30-grain silver solution into the measurer containing the above 4 drachms of solution, and apply to the plate without washing; but if you should wish to use it as an intensifier, then after applying the developer you wash the plate before flooding it with the above solution, and you will find in either case that it will act to a charm. I never found a better. Without washing the plate it is a redeveloper, and by washing, an intensifier. It is

in fact a new power, and I am confident that any photographer that will use it with judgment will be more than well pleased with it. If any of you try it and don't like it, try it again some other time. But remember, if you wish a nice soft negative, be sparing of the silver; the consequence of using it freely is a coarse deposit and hardness.

On the Utilization of Old Negative Baths for Printing.

BY DAVID DUNCAN.

THE London *Photographic News*, of February 11th, 1870, contains an article by its able editor on the utilization of old negative baths for printing. I think the subject has been before ventilated by the same gentleman. It is an interesting matter and doubtless of some importance to many of our fraternity. The process of bath boiling is at all times an unpleasant one, rarely unattended with loss and but little advantage gained, more especially if acetic acid has been used to acidify the solution when in working order. For my part, I detest the operation, and in practice avoid it as much as possible. There are plenty of good operators of the same mind also, albeit there are excellent workmen who place much dependence upon a bath which has been worked and boiled; others boil their baths from necessity, believing it to be the most economical method of saving the silver; and some boil, and boil to very little purpose. All will agree, however, that if requisite conditions be fulfilled, that there is nothing better than a new bath; it lasts longer, works cleaner than a boiled one, yielding negatives also of proper density and tone. It must be a great consideration therefore to be enabled to obtain excellent prints with very little trouble from a "played out" negative bath. This can be done. The editor of the *Photographic News* recommends the method proposed by Hardwick in his *Photographic Chemistry*. On reading the article referred to, I was induced to make a few experiments in the same direction, and succeeded with a modification, beyond my expectations, which I now publish freely.

Take any old negative bath, no matter

if it fogs or has been overworked. If acid neutralize either with carbonate of soda or liquor ammonia, a slight excess of alkali does not matter, and set in the sun for an hour or so; if there is no sun keep it in the light as long as you can. The object of this is to precipitate all organic and other impurities, while retaining the alcohol in the solution. When sufficiently sunned, add 1 drachm of a solution of citric acid (16 grains to the ounce of water) to every 8 ounces of bath solution. The object of this, according to Hardwick, is to precipitate the iodide of silver in the bath. Filter and add fresh silver until the solution contains 35 grains to the ounce. Now,* to every half gallon add half an ounce of muriatic acid, shake well, then add enough liquor ammonia to make it slightly alkaline; again shake well, filter, and save the filtering-paper for subsequent filtering as long as you can. Every time you strengthen add a little acid and ammonia as described. Float the paper from 30 to 40 seconds. No more. Fume as usual, and the prints will be all that can be desired. The operation detailed appears troublesome, but in practice is really not so.

ON VARIOUS PHOTOGRAPHIC SUBJECTS.

BY M. CAREY LEA.

COLLODIO-BROMIDE PLATES.

I HAVE lately made a number of experiments on the influence upon the sensitive collodio-bromide, of the time that intervenes between the addition of the solution of nitrate of silver and the coating of the plates, induced partly thereto by the complaint of a friend that he objected to tying himself down to the necessity of making the plates, because he had mixed the materials. This does not, however, seem to be a grave matter, still it may be sometimes inconvenient to decide twelve hours beforehand that one will prepare a set of plates, and may be more satisfactory to proceed after a shorter interval.

The result of my trials showed that the

* This is Mr. O'Neil's method published in the March number of this year's *Photographer*.

sensitiveness of the plate certainly increases with the time of keeping the mixture, at least up to twelve hours, as I have already stated. But that very satisfactory results may be got when the mixture is kept but six or eight hours. That the time may be farther reduced by increasing the quantity of nitrate of silver used, by one grain to the ounce. In this way, good plates can be made, keeping the mixture only two to four hours.

A trial was also made in which the sensitive mixture was used immediately after mixing. It received a very thorough shaking up for four or five minutes, and was then at once filtered and coated. The result was a very transparent and insensitive film, which required an extremely long exposure to receive a good image. A rough estimate based on actual trials led to the conclusion that such a plate required from twelve to twenty times the length of exposure which was sufficient for a plate made with sensitive mixture kept for twelve hours.

There is no advantage in exaggerating the shaking which the sensitive mixture receives. As the nitrate is added in solution, there is not the same need for violent agitation as when the powdered material is introduced.

I find that a good shaking of about three minutes after the solution is introduced, and another (which need not be so long) a couple of hours before the mixture is used, is what does best. More shaking is more likely to do harm than good. The addition of the nitrate in solution is extremely favorable for the chemical combination, not only because the mixing is immediate, but because of the higher temperature at which the ingredients meet. The addition of the hot alcoholic solution raises the temperature of the whole mixture so that the bottle feels warm to the hand. This effect is advantageous.

Dissolving the Nitrate.—Some experimenters speak of a difficulty in getting the nitrate completely dissolved. If any such difficulty is experienced, it is best not to add at once the whole of the alcohol, but to reserve a small portion. The best utensil is a small thin glass flask, of three or four ounces capacity, which, if kept for this use only, and

corked lightly between times to keep out dust, will not need washing. A brass holder, such as is made for test-tubes, is convenient for holding it, and keeps the fingers clear of silver-stains. Having introduced the nitrate of silver in fine powder and the alcohol, heat over a gas flame till the alcohol boils, agitating gently; remove for a minute, continuing the agitation, then heat again, and so on. If, in two or three minutes, the whole is not dissolved, pour off the liquid into the bottle of collodion, and add the reserve portion of alcohol and repeat. Even if it be necessary to add a little more alcohol than directed, this will not be important, provided the excess is small.

Of course, the first portion of alcoholic solution contains nearly all the nitrate of silver, therefore the collodion, after receiving it, will need to be thoroughly shaken; it must not wait for this shaking for the second portion of the solution. It is also desirable in pouring the solution into the collodion, to pour it straight into the liquid, and not down the sides of the bottle, or the cold glass may cause the nitrate to crystallize. The power of strong alcohol to hold nitrate of silver in solution depends almost entirely upon the heat, and as the temperature falls the nitrate rapidly separates. It is, therefore, an object to get it quickly mixed with the collodion before allowing it to touch a cold surface.

Coating Plates.—The proportion of materials which I have given in the formulas published are suited to cold weather; in hot, a considerable addition of ether will be necessary, besides which, some plain collodion may be advantageously added, avoiding, however, to make the mixture too thin. Of course, a smooth plate must be got, and, provided this be accomplished, the thicker the mixture can be applied, the better; still, the thinning with ether must be sufficient to enable the operator to avoid making cloudy plates.

In very hot weather it is of course more difficult to apply the collodion smoothly, and this has led me to make many trials to find the easiest and most effectual method. It has proved to be as follows: Pour on plenty of the collodion mixture, and get it over the plate as rapidly as possible.

Next, instead of bringing the plate gradually up to a vertical position whilst rocking, *keep it very nearly horizontal*, rocking, of course, steadily, *and inclining it only enough to slowly carry off the excess of collodion*. This gives easily an excellent plate. It will not be necessary to "send back" the collodion; if the temperature of the air is high, it will be found difficult to do so without making ridges.

As soon as the collodion is set sufficiently to avoid danger to the film, it is plunged into the pan of water.

Clean Hands.—With a little care, the collodio-bromide process may be worked from beginning to end without staining the fingers, or need of applying strong chemical detergents. The only precaution needed is this: After coating a set of plates, examine the hands to find if there are any white marks of sensitized collodion that has run off the plate, and if so, remove it with a bit of paper or rag moistened with ether. If this be neglected, these marks will blacken in the light, and then are very difficult to get rid of; but if attended as directed, they come off with a touch. Then wash the hands, first with strong solution of hyposulphite, and then with soap; pumice soap is the best. The development, being conducted entirely without silver, is not liable to stain the hands, or if brownish pyrogallie marks are found on the ends of the fingers, they may be got rid of with a weak solution of caustic soda.

PREVENTION OF BLISTERING AND SLIPPING IN DRY-PLATE WORK.

In most sorts of dry plates there is a tendency of the developing solution to work through the film, not as water works through paper, but by an osmotic action, as is shown by the fact that when once underneath, the solution shows no tendency to return when the plate is removed from the developing bath, and the same takes place in the fixing bath and in the washing.

Now, in my opinion, the greater extent to which this tendency exists, the better. If it could be wholly avoided, it would, of course, be satisfactory, but this cannot well be, because for dry plates we need a porous collodion, and such porous films will

always blister. And if the tendency exists at all, a few blisters are worse than a great many, because they are far more unmanageable. The cotton which I use is extremely porous, so that by the time the plate is developed and fixed the whole film has been penetrated and has been detached from the glass, except where held by the edging. This is what I desire to see, having found the means to regulate the edging precisely to suit. And this is done as follows:

The small camel's-hair pencil tied to a glass rod is dipped into the four or five grain solution of rubber in benzole, is carried *along the long side of the glass from end to end*, but on the short side *it breaks off about half an inch from each corner*. This leaves four little open spaces, as will be seen in the diagram, through which the liquid underneath the film can escape, and whichever end of the plate chances to be set uppermost in drying, there is always provision for draining off the water under the film.



Since I have adopted this plan I never give a thought to the matter of blisters, as the plate always takes care of itself; except indeed in this, that after the plate has lain some time in a horizontal position in the fixing bath, or under the tap, it is best not to raise it too suddenly to the vertical, because it will sometimes, though not often, happen that there may be water under the film, and if the plate be suddenly raised, this may flow down to the end with sufficient force to break the film. By raising slowly all danger is avoided, and the water flows out through the open spaces.

My first plan was to carry all the edgings

a little short, so as to leave the corners open. But the corner is just where the plate most needs support, and although the method answered as far as the escape of the liquid was concerned, there was the disadvantage that the film occasionally got loose at the corners, and then the plate needed extremely careful handling to avoid injury. The plan here described avoids this difficulty completely, and is also better for the escape of the water.

I need hardly point out how much more complete the washing must be when the liquid and the wash-water that get through the film can escape freely. Indeed with a film that shows any tendency at all to blister, we cannot hope for a thorough washing in any other way, and it will easily be seen that a few detached blisters may give more trouble than where the whole film becomes separated, the edges excepted.

GREEN GLASS IN THE DARK-ROOM.

Continued use confirms me in the good opinion which I have expressed of the substitution of green for yellow glass, and those who have tried it have been, I believe, all pleased with it. The relief to those who have weak eyes, is very great, and the contrast of the soft green light with the irritating yellowish red, is very agreeable.

SOLAR CAMERA PRINTING.

BY PROF. J. TOWLER, M.D.

THE solar camera in the hands of an adept, is an instrument of great importance, and can be rendered very profitable. The operations with this camera are in some respects distinct from those that have preceded, and requires special study. In the first place, the negative for the work in question is different from the ordinary negative; the latter in general is much too dense. More skill is required in posing the sitter, so as to obviate all harsh shadows, which may be tolerated to a certain extent in very small pictures, but which look horrid when magnified. The skill of the real artist might be here called in requisition and used with great advantage. As soon as the sitter is illuminated with a soft light, avoiding extreme contrasts, the next thing

is to make the exposure and develop the picture. The exposure is *slightly longer* than for the common negative; whilst the development is *slightly shorter*. The collodion, too, may be with advantage somewhat thinner than that which is used for every-day work; at all events it must be perfectly homogeneous, that is, free from all coagula and insoluble particles, and it must flow evenly and concrete without leaving any streaks or reticulations. By exposing the full time or over, the developer brings out the picture easily and without any forcing, that is, the middle tones and the shadows appear almost simultaneously. As soon as the picture is complete as regards light and shade, although still very thin, stop all further development by washing and fixing. Now examine the negative by holding it up between the eye and the window. How shall we know whether the negative will be suitable or not?

In the first place, the picture must be accurately in focus, that is, uniformly sharp, as far as possible; this is, of course, a *sine qua non*, an indispensable condition.

Secondly, the picture must be complete, that is, not only the shades must be brought out, but likewise all the middle and even the finest tones must make their appearance; in fine, let me repeat, the picture must be completely developed; this is almost an indispensable condition.

Finally, the bars of the window must be visible through the darkest shades, or, if the negative be held a short distance above a page of print, the shades ought to be so thin as to allow you to read the print through them; this is an indispensable condition.

The negative that stands this scrutiny, is carefully dried, but not varnished.

There are two different sorts of solar cameras in the market, namely, one sort in imitation of the well-known solar microscope, first brought out by Woodward, in which the camera is stationary, being fixed in a window, with the necessary appendages of movable reflector in front, and stage behind for holding the paper to be printed on. This is an excellent solar camera for summer operations, but is about useless in winter in high latitudes. The other sort of solar camera in the market is represented by that

manufactured by Rœttger, of Philadelphia. This form of camera can be used throughout the whole year. It would be useless to describe these cameras; for, if you possess one, you will know how to use it, and if you buy one, you will be shown how to use it.

The negative is placed wrong side up in its appropriate holder, whilst a sheet of paper is fixed on the movable screen behind to receive the picture. Bring the sun into the axis of the lens and focus. I generally use a small telescope or opera glass for this work, especially with the Rœttger cameras.

N. B. You must be very careful to get the movable screen, that holds the paper, not only perpendicular to the axis of the lens, but in such a position, that, if a circle were drawn around its centre, every point of that circle shall be equally distant from the middle of the lens. If you neglect to verify this point, your work will be a failure.

We will now proceed to the preparation of the paper. The brightest and most vigorous prints are obtained on the ordinary albumenized paper; and consequently, when the season is favorable and the sky unclouded, preference will be given to this paper for solar printing, when the prints are not to be retouched or colored. But, during the winter season, and the early spring and late autumn months, when the sun's power has diminished in vigor, and is frequently obscured by clouds, it is not advisable to attempt printing on albumen paper, because the exposure will be too long to be convenient, and may frequently have to be interrupted, during which time the paper may have changed its dimensions, and no longer lies flat. In such a case as this another mode of printing has to be pursued.

Printing on albumen paper.—The paper is sensitized the usual way, but on a strong silver solution for two or three minutes, that is, until it lies perfectly even on the solution, and the corners have settled down. The object in this, is to get the paper sufficiently saturated with moisture; and the reason for using a strong silver solution, is to coagulate the albumen and not dissolve it off from the paper, which a weak solution would do.

The sheet is then taken up from the fluid and allowed to drain for a few minutes by holding it in the hand over the bath. It is then laid flat on a piece of plate glass, the albumen film being upwards. This plate of glass must be strong enough for the purpose, quite flat, and covered on one side (the back), with a clean piece of white paper for focussing upon, unless you have two plates of glass, one for focussing and one for the sensitized sheet. The plate intended to receive the sensitive paper, previously receives on the back, all round, and half an inch wide from the edges, a coating of thick gum solution; its dimensions too are each one inch less than those of the paper. This plate is supported on a small box, less in size than itself, which is placed on a table. The gummed edges are beneath. In this position the sheet of paper, still moist, is laid upon the plate in such a way as to allow half an inch of paper to project all round. Now cut a small square from each corner of the paper with a pair of scissors, and fold the projecting edges down, and then back upon the gummed surface. There is no need of once touching the sensitive surface with the fingers whilst performing this operation; still the latter requires dexterity and nicety. You must be sure to make each edge of the paper adhere all along the gummed edge of the glass, and to press all the extraneous gum away from the edge, otherwise it will creep round the edge of the glass to the front, and cause you trouble afterwards. When once accustomed to it, the operation is more quickly performed than described.

As soon as the paper lies quite flat on the glass, and has been made to adhere firmly on the back by means of the projecting edges, the paper is allowed to dry spontaneously. When once dry, the surface will be perfectly flat and without the slightest wrinkle or corrugation. It is now ready to be placed on the focussing screen, in the selfsame position previously occupied by the focussing plate of glass. Let it here be firmly fixed with thumb-screws or otherwise, as may be most convenient.

The sun is now turned on, and the printing operation is commenced. The time is proportioned to the work, and may vary from half an hour to two or three hours.

Print until the picture is intense enough for the subsequent operations of toning and fixing, which I need not describe.

Printing on Plain Paper by Development.

—This mode of printing is decidedly preferable to the preceding, taking the whole year through, and especially so when the prints have to be retouched with India-ink or to be colored. Select for this sort of work the heaviest Marion's paper, and salt it with chloride of ammonium, citrate of soda, and gelatine, as described by me in this Journal. It is better to salt a few quires at a time, and have a stock on hand.

The sheets when salted and dry are sensitized on a bath of tartaro-nitrate of silver, the component parts of which are also given in the article just referred to. Each sheet, as soon as it has sufficiently drained, is placed (as before described) on a plate of glass, and fixed along the edges on the back with gum.

This system of fixing each sheet of sensitized paper, whilst moist, on glass will repay you amply for the trouble.

The use too of a chloride paper is much to be preferred to that of an iodide or bromo-iodide paper; for, in the first place, the prints are more vigorous; secondly, the paper not being so extremely sensitive, the manipulations are more easily performed; and, finally, there is no idea of stains, or fear of the picture penetrating to the back of the paper in this process; but there is considerable risk with the iodized or bromo-iodized paper in these respects, as those know who have made experiments in this direction.

Exposure.—In the depth of winter, the sun being bright and unobscured, the latitude being between 42 and 43 degrees, an exposure of ten minutes I find to be amply sufficient—less might be adequate for the purpose—more is no injury; on the contrary, it is an advantage. But if the sun is shining brightly, it is well to get all the work out of it, and expose as many sheets as possible, each for ten minutes, and then finish the rest of the work, by development, in the evening. In this way you may easily print four or five prints per hour.

Development.—Each print is first cut along the edges of the glass-plate, and thus sepa-

rated from it. It is then immersed with clean fingers and carefully in a bath of dilute aceto-gallate of lead, as follows:

Water,	32 ounces.
Solution of Gallic Acid (2 grains per ounce),	3 “
Solution of Acetate of Lead (30 grains per ounce),	$\frac{1}{2}$ drachm.
Acetic Acid sufficient to clear the solution.	

As soon as the paper is thoroughly moistened in this solution, transfer it to a large glass plate, picture side uppermost, and develop the print completely with the following:

Solution of Gallic Acid (2 grains per ounce),	2 ounces.
Solution of Acetate of Lead (30 grains per ounce),	20 drops.
Acetic Acid sufficient to clear the solution.	

The plate is held over a warm stove during the development, care being taken that the paper is thoroughly covered with the solution. In about ten minutes, or a quarter of an hour, the picture will be intense enough—you can make it as intense as you wish. The moment the picture is advanced as far as you desire, wash it thoroughly under the tap and on both sides; after which it is immersed in a dish of clean water, until you are ready to proceed to the operation of toning. This operation, however, is altogether unnecessary, if the picture is intended for the artist to finish with India-ink or color. In this case, the print is placed at once—that is, immediately after the thorough washing—in the fixing solution of hyposulphite of soda. It is always well to keep the prints in motion, at least every few minutes, otherwise a deposit might easily form on the whites, which is not easily removed afterwards by washing.

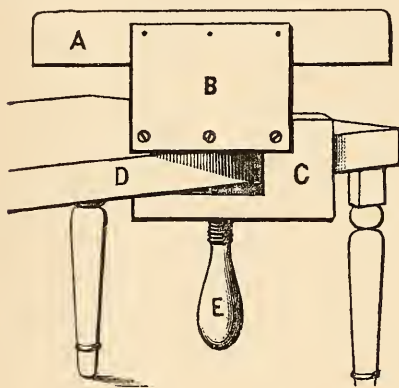
There are other modes of printing by development to be found in several of the textbooks; some of which are quite worthless; others, on the contrary, are used. To these I may recur on some other occasion.

WHETHER the work of others is good or bad, it is well to *study* it whenever we have opportunity. Take up the good and avoid the bad, should be your custom.

SAVE THE NEGATIVES.

A GREAT many good negatives are ruined after considerable use by scratches from the finger nails when removing prints from the pressure-frames, and from the ragged, horny edges of the albumen-paper as it passes over them.

Messrs. Kilburn Brothers, the eminent stereographic publishers at Littleton, N. H., have adopted a plan which entirely prevents injury to the negative from the latter cause. The drawing below will illustrate.



A is a strip of steel, the upper edge very smoothly ground, fastened firmly in the block B, and to the table D, by means of the hand-clamp, C. This strip may be, say, a foot long. The sensitized paper is cut to size for use, and then drawn, plain side down, from end to end over the steel edge, holding it in the same manner (*i. e.*, by each end, as you would when ironing a ribbon over a stove-pipe. In this manner all the rough, ragged edges are removed, and rendered perfectly harmless. Mr. Kilburn declares this idea to be worth hundreds of dollars to him in saving valuable negatives.

The little hand-screw clamp, C, is a valuable little thing, too. It is easily made, and will answer for any machine, such as the card-cutter, press, steel strip, and so on; for any of these may be screwed to the clamp, the clamp to any table or bench, and any or all quickly removed if the space they occupy be needed.

NOTES IN AND OUT OF THE STUDIO.

BY G. WHARTON SIMPSON, M.A., F.S.A.

Washed and Fumed Sensitive Paper—Platinum Toning for Prints—The Woodbury-type Printing Process—Another Encaustic Paste—War and Photography.

LONDON, August 1st, 1870.

Washed and Fumed Sensitive Paper.—Considerable interest has recently been excited by the successful use of sensitive albumenized paper, which by the washing away of the free nitrate of silver has been made to keep for some time, even in hot weather, without becoming discolored. The possibility of sensitizing a quantity of albumenized paper at one time, and keeping it in the height of summer for days or weeks without spoiling, is so important that it must necessarily interest every photographic professional or amateur. It is to Col. Stuart Wortley, a distinguished amateur, that I am indebted for a special intimation of the value of this method. Some months ago I mentioned in my *Notes*, that M. Baden, of Altona, had proposed a method of producing permanent sensitive albumenized paper, and that his plan consisted in washing the freshly sensitized paper, and when required for use, submitting it to the fumes of ammonia, which restored the sensitiveness which the removal of the free nitrate of silver had destroyed. I verified the value of his suggestion by experiment at the time, and I found also that Carrier's permanent sensitive paper, which yields ordinarily a weak gray image, gave a vigorous print when fumed. This fact will scarcely be novel or surprising to American photographers, amongst whom fuming is common; but the fact that the sensitive paper may be washed, and when washed kept, and then by fuming made to yield rich fine prints, is, probably, not yet practically familiar to many. Besides the advantage of keeping the paper without discoloration, it is alleged that it is more sensitive, tones more rapidly, requires less gold, and gives better and more uniform results than the unwashed paper with its excess of free nitrate of silver.

Col. Stuart Wortley, a very able amateur,

having recently been induced to publish his wonderful 16 x 12 instantaneous photographs, found in the ordinary operations of printing that the rapid discoloration of the paper in hot weather was a serious drawback to success and comfort of an amateur when called upon to print extensively, and was therefore induced to try this plan. He was so charmed with the success, that he at once communicated with me in very enthusiastic terms: He said, "I do not hesitate to state, that this is by far the most important modification that has been proposed since I first photographed, and we are much indebted to the German gentleman who first published the process. It is absolutely certain; a waste, mealy, or bad print is unknown to me since I have worked it. It prints any kind of negative in perfection, and is simply invaluable."

At the same time he sent for my inspection, a batch of thirty large prints, from one day's work, as an illustration of the results obtained, and they fully bore out his high encomiums. They were, he states, from all kinds of negatives, some requiring an exposure of three hours, whilst others were done in fifteen minutes; but he found that in all cases the prints were absolutely perfect. It is easy, he observed, with almost any method to get *one* good print; but here, in thirty consecutive prints, containing portraiture and landscapes, instantaneous and other pictures, was the evidence which practical men desire, before they accept a position as proven, in relation to any new operation in photography.

His method of working is very simple and involves but little trouble or additional appliance. I will briefly state his formulæ and manipulations as he details them in a recent letter.

The silver bath is weak, being made as follows:

Silver,	.	.	.	.	35 grains.
Nitrate of Lead,	.	.	.	.	13 "
Sugar,	.	.	.	.	2 "
Water,	.	.	.	.	1 ounce.

In washing the paper after sensitizing, I do not float. I rinse—*i. e.*, pass the paper through water without soaking—and then hang it up to dry.

I never fume the paper, the pads of the printing-frames only being fumed. They are all placed in a large box over night with a little strong ammonia in a saucer at the bottom of the box, and by the morning they are quite sufficiently fumed.

The gold bath is made with a double chloride of gold and potassium, which I prepare myself. It is very easy to prepare, and is perfect in its action in ordinary silver printing, as well as in the fuming process. The same bath always remains in use, the double chloride of gold solution being added daily in the proportion of one grain to three sheets of paper.

I have been asked what advantages I find. I find these: The paper is far more sensitive to dense portions of the negative; it never bronzes or blocks up the detail in the dark shadows; and the print is finished sooner than on ordinary paper. Further, it tones easily and certainly, taking any color; and, a point of much importance, more silver is saved as residue by washing off previous to printing than by leaving the free nitrate on while the picture is printing.

There are one or two points to be remembered in order to secure success. It is not necessary to remove very thoroughly all the free silver. If the washing be very thorough, it will tend to produce weak prints. Again, it is important not to allow the paper to get into that perfect state of desiccation sometimes described as "bone-dry." Ordinary sensitive paper, in this extremely dry state, will not yield vigorous prints, and it is much more liable to become thus dry, when washed, than when it retains a coating of a soluble salt like nitrate of silver on its surface.

Platinum Toning for Prints.—In a recent number I mentioned that some experiments with platinum as a toning agent gave promise of good results, and I promised to return to the subject. Further experience has confirmed that promise. Some years ago I gave the subject some attention, trying experiments with platinum, rhodium, iridium, and some other of the non-oxidizable—or, rather, not readily oxidizable—metals as toning agents. The results, although interesting, suggested no reason for superseding gold. There were various diffi-

culties in their use, and the results were not superior in any respect—in many cases not equal—to those obtainable with the ordinary gold toning solutions. Iridium—which, when used as an enamel pigment, gives the finest black the ceramist can produce—is comparatively poor when employed as a toning agent, yielding a weak, grayish-black tone, and is, moreover, difficult to prepare and to use. With platinum, in my former experiments, I at times obtained a very rich, full-toned neutral black, but the toning was uncertain. If the solution were used acid, it bleached the print in a disastrous degree; if it were made alkaline or neutral, it was frequently difficult to secure any toning effect whatever.

In my recent toning experiments with platinum I was much more successful, and arrived at much more satisfactory conclusions. With perfect certainty and control, I have been able to produce a series of very pleasing tones, varying from a rich, rosy, deep chestnut or chocolate color, to a deep, intense, neutral black. In the series of purples and browns, the tints are not strikingly different from those produced by gold, except in possessing a pleasing, fleshy tint and texture in the lighter half-tones, which was very effective in portraiture; but when the toning is pushed to a black, the color is essentially different from that of gold. The black is more neutral and intense, without any tendency to blueness or coldness.

There are perhaps few tints more pleasing than that of a fine gold-toned print, and I should not think of suggesting anything to supersede it for ordinary purposes. But, by means of platinum, certain varieties in toning may be secured which may possess their own specific value; and, as the cost of platinum is something like one-third of that of gold, and as its resistance to atmospheric influences is not inferior to that of gold, acquaintance with its toning powers is a question which should possess interest for all photographers.

It might naturally be supposed that no more difficulty should be experienced in using platinum than in using gold for toning purposes, and that the mode of working which answered with the one ought to be successful with the other. But this is not

so. The first difficulty the photographer experiences in using a platinum salt for toning arises from his natural impulse to use it in the same manner as chloride of gold, using one grain of the salt in five or six ounces of water. This is much too strong; it requires diluting with one or two equal proportions of water. We have worked satisfactorily with a solution containing one grain of bichloride of platinum in fifteen ounces of water. If the solution be too strong the deposition of the metal is very rapid, and the color is gray instead of black. Again, if a solution of the ordinary bichloride of platinum be employed, it will convert the bulk of the silver image into chloride of silver, whilst depositing but very little platinum; and the print, after fixing, is a weak, gray, washed-out image. If the acid be neutralized, as in the preparation of a gold toning bath, the solution will bleach considerably, and give a mealy print during the first few hours after mixture, and will speedily lose toning qualities altogether.

These difficulties are not, however, insuperable; but by a slight modification of the conditions are removed. To tone satisfactorily, the solution should have a very faintly acid reaction, but the free acid should not be hydrochloric acid, as that so readily attacks and bleaches the silver image. To meet the case it is necessary to neutralize the free acid with carbonate of soda. This may be added freely until a decidedly alkaline reaction is manifest; after which nitric acid is added to neutralize any excess of carbonate of soda, and in just sufficient proportion to produce a very feeble acid reaction. If the solution is just sufficiently acid to redden blue litmus paper slowly, it will serve. The toning bath in this condition may be used a few hours after mixing, and it will keep perfectly good—and, indeed, improving—for many weeks.

I have worked with the platinum bath as a toning agent for developed prints on collodion, for direct prints on collodio-chloride of silver, and for albumenized prints. For all purposes it answers well, but for collodio-chloride prints and for wet collodion plates it is especially efficient. Nothing can exceed the excellence of the tints and the

facility of toning this bath presents with Obernetter's paper prepared with collodion-chloride of silver. Developed images on wet collodion toned in this solution acquire a very fine black, rivalling that of a fine engraving.

The developed collodion images are, of course, toned after fixing; but in all other cases the prints are toned before fixing, as with chloride of gold. As the solution is used slightly acid, however, it becomes of importance to wash the print after toning, in order to avoid decomposition of the hyposulphite fixing solution, and consequent sulphur toning. As a rule, the prints were very little altered during the process of fixation.

The Woodbury Printing Process.—As I mentioned in my last, the Woodbury photo-relief printing process has recently passed into new hands in this country, and there is promise of more successful and perfect working of the process than it has yet received in this country. In France it is rapidly progressing. Besides the energetic and successful operations of MM. Goupil, with which you are familiar, it has now been taken up with great energy by M. Braun, of Dornach, who has already made such a great success of the carbon process. One of my personal friends and correspondents, who has recently visited Dornach, gives a glowing account of the extensive arrangements for working the process, and of M. Braun's enthusiasm in regard to the process. He thinks, that more "delicacy and sharpness are obtained by means of the photo-relief process than in carbon printing, and he believes, indeed, the Woodbury prints to be scarcely second to silver printing." My correspondent adds:

"A sheaf of impressions were brought for my inspection, of cabinet size, all of them being portraits with artificial backgrounds, and, although merely preliminary trial prints, they were fully equal, if not superior, to any Woodburytypes I have yet seen. If M. Braun will only bring to bear but half the amount of energy he has bestowed upon carbon printing, Woodburytype will be without a rival in the region of photography.

"M. Braun has but three or four printing-

presses at work at present, but anticipates very shortly, as soon as the weather has become somewhat more moderate, to increase the number very greatly. Like MM. Goupil & Co., he employs the Desgoffe press, instead of the ordinary hydraulic machine, for producing his engraved plates from the gelatine, and speaks highly of its capabilities. The metal plates are purchased ready for use, and possessed of the requisite uniformity and evenness. The largest pictures yet printed measured 12 inches by 10, but no difficulty is anticipated in obtaining much larger impressions if required."

Another Encaustic Paste.—The use of encaustic paste has become so universal amongst photographers, especially for large pictures, that any proposed improvement is worth putting on record. Those at present in use consist of wax, or of a mixture of wax and some resin, dissolved in turpentine, benzole, or some essential oil. Herr Grune, a gentleman to whose chemical and practical knowledge, photographers owe many valuable suggestions, recently gave me a formula which he considered a decided improvement on those already in use. This formula gives a paste which he describes as easier to use and more efficient than any of those generally employed. It consists of:—

Pure White Wax,	.	.	.	1 part.
Marseilles Soap,	.	.	.	1 "

These are both shred fine, and placed in a pipkin with a small quantity of water, the precise portion being unimportant. The whole is then boiled and stirred until it is thoroughly incorporated and forms a soft paste. When cold it is ready for use, and is applied to the surface of the albumenized print in the usual manner, and rubbed gently and briskly until a fine polish is produced.

This use of Marseilles soap reminds us of a recipe for a varnish for prints, which I have heard strongly recommended; but for the excellence of which I cannot personally vouch. It is made by mixing eight parts of gelatine or glue with one part of alum and half a part of Marseilles soap in boiling water. The glue being first well dissolved, the alum and soap are added; all is then boiled, and afterwards strained and filtered.

This varnish, it is said, will protect from damp, and is perfectly water-proof. With the addition of a suitable proportion of a haloid salt, this might probably make a good sizing material for producing photographs on canvas.

War and Photography.—As you by this time know, the old world is expecting daily to become again acquainted with the horrors of war, and before I write to you again thousands of lives will have been sacrificed, and tens of thousands of agonies suffered. Men will be maimed, mangled, and murdered; women made widows; children made orphans; treasure will be wasted; the fair face of nature devastated; the tide of civilization and progress rolled backward; and all for the mad wickedness and folly of a few ambitious tricksters in high places. This, however, is not photographic; I merely referred to the subject to mention the rumor that photography or photographers, may possibly be amongst the many who will suffer inconvenience from the war. A manufacturer of albumenized paper mentioned the fact to me a day or two ago that good *Saxe* paper already scarce, was likely in consequence of the war to become more so. One of our best landscape photographers, whose charming views of Alpine scenery are familiar throughout the world, has recently had his summer's work on the Rhine cut short, and that with scant courtesy from the Prussian military authorities, by whom, whilst engaged with his camera, he was arrested as a French spy. He was placed between two soldiers and marched off into the presence of an officer, by whom he was interrogated. His nationality and the innocent nature of his occupation were easily made apparent, and he was dismissed with an imperative caution not to attempt to take views of any kind in that district during the war. I presume that, however inconvenient to the photographer, this is but a necessity of war, and can only be reckoned amongst the most trivial evils.

A DEFICIENCY of acid in a new bath and an accumulation of ether and alcohol in an old one, will cause streaky lines in the direction of the dip.

Dr. Vogel's Farewell to America.

ON the eve of leaving the United States, it becomes my pleasant duty to express to the photographers and to the men of science and art, who have tendered me such a hearty welcome, my warmest thanks.

I have roamed through parts of Canada and the United States, from New York to St. Louis, and from Chicago to the St. Lawrence, and wherever I went I not only met with intelligent men, who are an honor to our art, but also amiable companions, who held out the hand of fellowship, who received me like an old friend, and extended to me a generous hospitality, and made my stay so pleasant, that, from the moment when I put my foot upon American soil until the hour of my leaving, I felt myself as much at home as in my own fatherland.

Under these circumstances, my farewell is a painful one. I take with me proud and beautiful recollections, which more than recompense me for the humble services which I have rendered to science, and which will stimulate me to continue in the work of promoting our art.

Once more farewell, and that we may meet again, and live long to labor for each other, I earnestly hope. Never will I forget the time I spent under the folds of the star-spangled banner.

H. VOGEL.

PHILADELPHIA, August 20, 1870.

Ayres's Chart of Photographic Drapery.

WE have received a specimen of photography which we wish all our readers could examine. It was produced (we are sorry to say) within a hundred miles of the *Philadelphia Photographer* office.

At a first glance we behold a nearly white surface, upon which we discern three faces, six hands, and six feet. What connection the heads have with the hands, or with the feet, nothing in the photograph can possibly show. The picture might represent three ghosts, except that the faces are remarkably human, and the feet are encased in modern shoes.

But to explain: Three young girls, sisters,

wearing *white hats and blue clothes*, desiring to be grouped for a photograph, are taken against a *WHITE* background—behold the result! as above described. This affords us an opportunity to ask, would any operator who was provided with a copy of “Ayes’s Chart of Photographic Drapery” be likely to commit such an indescribable blunder as that? In this case, his chart would have told him at once that a *white* background must not be used for *blue* clothes. “Oh, anybody might have known *that!*” some will perhaps say. True, but how many colors of drapery are there besides, which the photographer is *not* likely to know until *after* he has spent time and material in finding it out; and then only to compel him to give *another sitting!*

How much better, therefore, would it be to work understandingly and with example before your eyes, than to grope in darkness until taught by experience, to say nothing of useless trouble and expense. Let these few thoughts suffice, and show your wisdom by obtaining a copy of this useful adjunct to the operating-room. Although you may not know all the colors by their names, your lady customers do, and can soon tell “what to wear;” you can also by its help tell them what *not* to wear.

POSTAGE ON PHOTOGRAPHS.

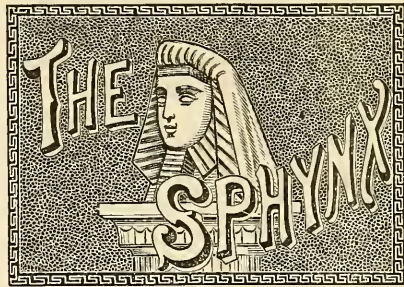
A CORRESPONDENT, who has had a disagreement with his postmaster concerning postage on his pictures, sends us the following decision, which we publish (though not new) for the benefit of those who are not fully informed :

POST OFFICE DEPARTMENT,
APPOINTMENT OFFICE,
WASHINGTON, July 25th, 1870.

SIR: In reply to your note of July 21st, I have to say that photographic representations on flexible cards, unconnected with any manuscript matter, are entitled to pass at the rates charged for transient printed matter. The same in cases of metal, wood, or other material, must pay letter rates.

I am, respectfully, etc.,

J. W. MARSHALL,
First Assist. P. M. General.



OUR readers seem a little backward about asking questions of our Sphynx, and very ungenerous in their supply of *answers*. We this month present a likeness of the gentleman, and propose to keep it before you. He is perfectly harmless, tells no secrets, and receives all communications in confidence. So you need not fear betrayal.

The following are all the answers received so far to last month's questions. We hope they will be looked over again, and more answers sent in.

1. Don't silver too strong; keep paper in as dry a place—atmospherically dry—as possible; don't fume until perfectly dry, and fume moderately; print as soon as you can, and tone as soon as you can after printing.—AL.

2. A “true Rembrandt effect” is fully described by the editor of this magazine in his series of papers on “Art Principles Applicable to Photography,” in Vol. V, chapters ix, x, and xi, pages 226, 265, and 331. Those chapters alone, to say nothing of the series of articles as a whole, have been invaluable to me, and I hope all those who are “wild on Rembrandts,” and those who really want to know how to produce them rightly, will refer back to their old numbers, and work understandingly.—RELSO.

3. Yes, and no. It will answer for those who like it, but it is expensive. There are plenty of cheaper methods, which J. P. M. doubtless knows. I never liked cyanide or gold intensification either. Result is hard.—GEORGIO.

4. KEEP THEM OUT OF THE BATH! Read *Mosaics*, 1868, which contains E. L. Wilson's advice to troubled photographers. Read also what Fennemore has written in *Mosaics*, 1870. Read all of Lea's and Fen-

nemore's contributions to the *Philadelphia Photographer*; and more, do as you are thus told, and those "little particles" won't get in your bath.—ECNEROLF.

Annoyance caused by floating particles of iodide of silver, etc., in the bath may be avoided by swinging the box containing the bath forward. Have the bath-box hung in the centre on thumb-screws. Dip the plate, then throw the bath-box forward. The plate will then fall forward against the flat side of the bath, and if left to remain so while being sensitized, the particles cannot adhere to it. The thumb-screws serve to keep the box in place.—THOS. CUMMINGS.

5. I should say, too strong silvering and carelessness in removing the sheet from the solution, one part becoming more strongly silvered than the other.—EMOS.

QUESTIONS.

1. What is the cause of "marble markings" in the negative—best seen from the back of the plate, and more perceptible in an *under-timed* and *re-developed* negative? Explanation on page 82, *Mosaics*, 1870, *unsatisfactory*, as a different collodion in same bath on same day fails to produce the trouble, no matter how it is *dipped*, and the collodion producing the streaks still presented the same appearance even when the amount of iodide was reduced to the *minimum proportion*.—ALCO.

2. What is the best formula for stippling glass blue?—"STUCK."

3. How am I to tell when a negative is under-exposed or over-exposed, and what are the remedies for both? Plagued if I can tell, and I have been six months in the business.—HONEST.

4. What is meant by the "equivalent focal length of a lens?"—OPTIX.

A NEW SIZE.

DEAR SIR: You will doubtless recollect my writing you last winter upon the subject of introducing (along with the sizes of photographs and ferrotypes then made) a *new size*, something like the sample inclosed, to meet the wants of those wishing

a little larger picture than the little carte, yet not so large as the cabinet.

May I not again call your attention to this new size as a *desirable* one, capable of being taken hold of by both photographers and ferrotypers? I should like to see you take hold of it, and *feel* the fraternity on it through the *Photographer*. I think it certainly would *take* if once introduced; for any gallery that can produce the little carte, can make this new size without much extra outlay; and there are few customers but what would prefer a little larger picture than the old carte, which is *too small* for anything except a vignette head. The difference in the price per dozen will not be so great as to deter the customer. I think it would take the place of the little carte when once started.

The *receptacle* mat for ferrotypes, which I have also suggested to you, will come in right for this size, and will certainly be preferable to the common mat for this, as well as all sizes of ferro mats.

The size of the new card should be about $3\frac{1}{4}$ inches wide by 5 inches long, *outside measure*. The above proportion would be neat and sufficiently portable for transmission through the mail in an envelope. A $\frac{1}{2}$ plate will be large enough for the negative, and a good $\frac{1}{2}$ lens will do the work. For double negatives, a $\frac{3}{4}$ plate will make two figures, or an $\frac{1}{10}$ four figures. Albumen paper will cut up right for them *without waste*. Ferrotypers can use a $\frac{1}{4}$ plate for single figures, a $\frac{1}{2}$ plate for two, a $\frac{3}{4}$ for four figures, etc. Few extras are required in the way of apparatus. So that all photographers and ferrotypers can give the size a push together, which was not the case with the cabinet size to so great an extent. The cards and mats for this size should be neatly gotten up, both tinted and white. For a name I would suggest *Bon Ton Cartes*, as they approach that size ferrotype nearer than any other.

Please let me know what you think of the matter.

Respectfully yours,

J. M. HOUGHTON.

We are certainly well pleased with Mr. Houghton's new size, and failed to print

his first suggestions on the subject, because they came when the cabinet was getting a start, and we thought the trade was not ready yet for another new size.

Messrs. A. M. Collins, Son & Co., with their usual enterprise, already have the new size cards ready, which you can get of your dealer, and try them.—ED. P. P.

FERROTYPERS' ASSOCIATION OF PHILADELPHIA.

THE regular monthly meeting of the Ferrotypers' Association of Philadelphia was held at Mr. George D. Wise's Gallery, Tuesday evening, August 2d, 1870, the President, Mr. A. K. P. Trask, in the chair.

After calling the roll, the minutes of the last meeting were read and adopted.

It was resolved that we now exhibit pictures. For four successive ballotings the result each time was a tie vote on two pictures, made respectively by Mr. A. K. P. Trask and Mr. D. Lothrop.

Amongst the pictures exhibited were some very fine ferrotypes made by Messrs., Estebrook & Robinson of Brooklyn, New York, and handed in to the meeting by the President.

A letter received by the President from Mr. James M. Houghton, of Lewisburg, Pa., was handed in and read to the meeting, and new style ferrotype mounts inclosed, were exhibited.

This new style of mount consisted apparently of two cards pasted together; the upper one containing the oval finish for the picture, while the under one had a square cut out or receptacle for the picture.

The advantage Mr. Houghton claimed for this card was, that it held the ferrotype much firmer, and presented a more even surface on the back of the mount than the cards now used, and its introduction into or removal from the album more easily accomplished.

The members thought the mount was both neat and pretty, but did not deem it practical to use, on account of the increased labor and time necessary to fit the picture into the receptacle; and the double card was considered too heavy for the album.

Mr. H. E. Lovejoy was elected a member of the Association.

A discussion took place between Mr. Harmon and other members, as to the intent and meaning of the clause in the constitution regulating the number of members necessary to be present at a regular meeting, in order to change the constitution.

Adjourned to meet at Mr. A. K. P. Trask's gallery, No. 40 North Eighth Street, on Tuesday evening, September 6th, 1870.

D. LOTHROP,
Secretary.

HOW CARDBOARD IS MADE.

OUR readers are probably not aware that the major portion of photographic cardboard used in this Western World is manufactured in Philadelphia, by Messrs. A. M. Collins, Son & Co. Such is the fact, however; for their machinery is so perfect and their facilities so great, that no one has been able to compete with them successfully either in quality or price. All the large and small dealers draw their supply from this great factory, which is four stories high, and 75 feet deep by 100 feet front.

We were never within its busy walls until a few days ago, when we visited it with our good friend, Dr. Vogel. Until that hour, we had hardly ever given a thought as to how all the cardboard used for mounting pictures upon is made. How seldom do any of us, by the way, think how much skill and tact, and brains and machinery are used in manufacturing what we daily consume.

The manufacture of cardboard is attended with a great deal of labor, and the thousands of reams and rolls of paper that are thrown from the paper-mill into this great hopper run through a great many manipulations, between many nimble fingers, and through sundry muscular machines, before they come out in the shape of pure, white, stiff, hard, calendered sheets, ready for our use.

Nearly all of the paper is received at the factory in huge "endless" rolls. When it is needed to be glazed or colored, the rolls are placed in the machine and passed over

rollers and brushes, which lay on the color evenly and uniformly. The paper is then caught by automatic fingers, carried up to the ceiling, and hung up to dry, one length after another, as rapidly as the machine supplies it. After it is dry, it is again rolled up, and is ready for cutting into sheets for pasting.

The pasting-room is one entire floor, filled with benches, and busy girls, who paste the sheets together with astounding rapidity. When the sheets are pasted together, two, three, or four "ply," as the case may be, they are hung up by one edge in "clips" to dry thoroughly. When dry, the sheets are run between immense rollers, which calenders them to any extent desired. After this they are ready to be cut into shape, and printed with whatever the trade may require.

Then there are dozens of other machines used to cut the cards into shape, to round the corners, to print the lines, to cut out the mats, to count the cards as they are cut, to polish the colored sheets, and so on, all of which could only be described by means of diagrams, and matter enough to fill our entire issue. Over three million sheets were turned out here during the year past. Where does it go?

We would like to give more details, but our purpose is served in calling attention to this most important industry. The utmost care is taken to prevent all impurities in their cardboard by Messrs. A. M. Collins, Son & Co., and the variety they manufacture is endless. You all use their boards and know how they please you.

WINTER ON A MOUNTAIN.

(Continued from page 217.)

IN my last I gave a description of a pleasant day above the clouds, whilst the valleys were shrouded in gloom, with a keen frosty air of some 20° colder than it was up with us. On such a day the wind is southeast, with a gentle breeze in the morning, gradually increasing to a fresh gale by 9 o'clock P.M., when the clouds come sweeping in from the coast, and by morning we have a storm in earnest, no make believe; the

wind drives in an almost unvarying force, no changing from one part to another, no lull or cessation, one wild dismal roar like bellowing thunder; the house shakes and trembles, though made of stone with walls more than three feet thick, and almost the darkness of night surrounds us.

We had an anemometer to measure the velocity of the wind, but we could not leave it out long, as the frost would clog it so as not to register correctly, so I used to go out and hold it for ten minutes, the Professor giving me the signal, as a man could not shout loud enough to be heard any distance away.

At 9 A.M., January 2d, I went out with the instrument; stopped ten minutes; when I got in, the register gave the velocity a little over seventy-five miles per hour. At 2 P.M., the same day, I tried it again; I went some ten rods from the house to get a clear sweep; you can believe it was hard work to stand, but, by turning side to the wind and bracing my foot against a stone, thus giving the smallest surface to the wind and having best chance to brace myself, I succeeded in standing my ground, but it was a mighty long ten minutes, and, when the signal was given, I attempted to turn; when I gave my breast to the wind it threw me down, then there was a grand rough-and-tumble struggle to gain the house; I got in, however, with the instrument, but was about as near "played out" as I ever was; this time the register gave ninety-three and three-tenth miles per hour, more than one and a half miles per minute; it seems almost incredible, but it would drive the rain, which had begun to fall, through two heavy coats, vest, and two thick woollen shirts to the skin instantly. It began to rain with the thermometer at 17°, owing to the warm current of air rising to pass over the top, when the temperature rose rapidly to about 33°, the force of the wind being such as to cut the ice away like pouring hot water on it, melting five inches of solid ice in two hours' time.

The storm continued to increase in violence until after dark, when it crashed in our window and blew out our "hurricane lantern." We had a nice time in stopping up the window. It looked dubious; our

jokes were of a gloomy, serio-comic nature, which served to keep up our courage a little. At about 9 P.M. there began to be lulls in the storm, which grew more frequent and longer until about midnight, when we retired to get up next morning and find the storm fully abated; the deafening roar had given away to a low moaning, whilst the fury of the storm was made visible by the wild, rugged appearance of the mountains; the snow and ice had been melted away, leaving the mountains "patchy," snow filling the deep ravines and sheltered spots, whilst the gray rocks and ridges were naked.

On the 20th of February we had a much harder storm without rain, but we were buried in snow to the ridge-pole on the side to the wind; it was of but six hours' length. We made no attempt to ascertain the velocity, as it would have been madness to have ventured out, for it would have been impossible to have stood, sat, or lain outside. It is almost impossible to form any idea of the force of the wind as we had it, at least I never got mine up to the height of the reality, and one must experience it to fully appreciate it. I have no doubt of the velocity being one hundred and twenty-five miles per hour.

Photographing was a very difficult task, chemicals freezing up every night. For a dark-closet I used to darken our room and then carry my plates out, then things would not always work just up to the mark; reflected light would play a bad "goak" on me; was obliged to use the smallest stops and expose negatives but a very short time; some of the best I made had but one second with three-sixteenth stops Jamin view tubes. Then it was almost impossible to intensify a negative; a great deal of the time the wind blew so hard that it was almost impossible to hold the camera anywhere—get a focus, then go after a plate, to come back and find the camera heels up and head down in the snow, and then, by the time I got it fixed up, a cloud would whisk along and put a stop to further proceedings; however, I got some good things and some poor things of good subjects; they will give one some ideas of the "frolic nature of frost and snow."

The expedition was undertaken at our

own expense, and proved to be very satisfactory, though the average temperature was about 12° lower than at the foot of the mountain; in sharp, frosty weather it was colder below; the coldest we had was 17° (below), whilst at the same time it was 18° (below) at Warren Village, we having more wind, which made it worse to be out. Our altitude would give us a climate of the south of Greenland.

Though attended with some danger and uncertainty, we met with no accidents. I may never receive any benefit from it, still I shall never regret having stopped for two months on a mountain in the heart of winter.

A. F. CLOUGH.

Some of the stereoscopes sent us, and made by Mr. Clough on the mountain during his sojourn, are not only excellent as photographs but very beautiful. Some of the frost formations are perfectly exquisite.
—ED. P. P.

PATENT OFFICE DRAWINGS.

UNITED STATES PATENT OFFICE,
WASHINGTON, D. C., June 10th, 1870.

As the drawings of all patents issued after July 1st, 1870, will be copied by lithography, the following rules will be substituted for the present rules, 18 to 24, inclusive, and no deviation from these will be allowed.

SAMUEL S. FISHER,
Commissioner.

DRAWINGS.

18. The applicant for a patent is required by law to furnish a drawing of his invention, where the nature of the case admits of it.

19. Such drawing must be on thick, smooth drawing-paper, sufficiently stiff to support itself in the portfolio of the office, for which it is intended. It must be neatly and artistically executed, with such detached sectional views as to clearly show what the invention is in construction and operation. Each part must be distinguished by the same number or letter whenever it appears in the several drawings. The name of the invention should be written at the

top, the shortest side being considered as such. This drawing must be signed by the applicant or his attorney and attested by two witnesses, and must be sent with the specification. Tracings upon cloth pasted on thick paper will not be admitted. Thick drawings should never be folded for transmission, but should be rolled.

20. The duplicate drawing to be attached to the patent will be furnished by the office without charge, and will be a photo-lithographic copy of the thick drawing.

21. The following rules must be observed in the preparation of the drawings, in order that they may be photo-lithographed:

The paper must be thin Bristol board or thick drawing-paper, with a smooth or calendered surface.

The outlines must be executed in deep black lines, to give distinctness to the print. Pale, ashy tints must be dispensed with.

In shading, lines of black ink should be used, and such lines should be distinct and sharp, and not crowded. Brush shadings or shadows will not be permitted.

All colors, except black, must be avoided in the drawing, lettering, and signatures; violet and purple inks must not be used.

No agents, attorney's, or other stamp must be placed, in whole or in part, within the margin.

The sheet must not be larger than ten inches by fifteen, that being the size of the patent. If more illustrations are needed, several sheets must be used.

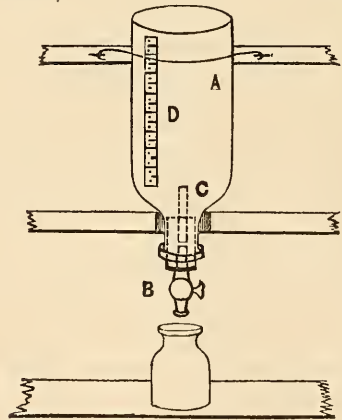
22. Copies of drawings of patents issued after January 1st, 1869, will be furnished to any one at the uniform rate of twenty-five cents per sheet of standard size.

23. Copies of drawings of patents issued prior to January 1st, 1869, which can be photo-lithographed, will be furnished at twenty-five cents per sheet, when ten or more copies are ordered. Single tracings of such drawings, or less than ten, will be furnished at the cost of making them. One hundred copies or more will be furnished at ten dollars per hundred.

24. Applicants are advised to employ competent artists to make the drawings, which will be returned if not executed in strict conformity with these rules, or if injured by folding.

BROOKS' IMPROVED DEVELOPER HOLDER.

I DESIRE to describe a very simple little piece of apparatus, which I have lately devised, for holding the developing solution, and which is in working use. In the common method of pouring from the stock-bottle into the flowing-glass by the inverting of the bottle, the contents thereof are very much agitated, and any sediment or particles transiently in suspension, will flow over into the flowing-bottle, thence upon the film, producing "pinholes" (as I have frequently verified), "comets," and other annoying defects. In this little apparatus all this trouble is avoided, and in addition I find an ease and convenience of use quite charming, besides other really practical advantages.



It consists of a two-pound acetic acid bottle A, with its bottom removed, by the "alcohol string," or some other of the well-known methods, sustained in an inverted position, as clearly shown in the sketch, against the wall of the dark-room over the developing sink or tub, within easy reach. In the usual place is a good tightly-fitted cork—sufficiently so to withstand the pressure of the bottle full of developer, into a hole in which cork is placed from the outside a small faucet B, and to continue the connection to the interior of the bottle, a short glass tube C, which should be of such a length as to reach to about where the *straight* sides of the bottle begin. D is a scale constructed as follows. Paste upon

the outside of the bottle in a perpendicular position, a strip of white paper one inch wide. Open the faucet B. Pour in water (through the top of the bottle) to fill up to the top of the tube C, where of course all excess will overflow. Make a mark upon the strip of paper where the water now stands; this is zero. Close the faucet. Now measure in your graduate 16 ounces of water and pour into the bottle; mark the level of the water now upon the paper strip, and then divide down to zero, with dividers, into sixteen spaces. These will represent ounces, and number them accordingly. This constructs the scale and makes the instrument self-measuring. Now empty out all the water by removing the holder from the bracket. Replace. Now fill up to zero with your common admixture of developer. Below this now it will never fall, and is considered to be empty.

Its manner of use is already anticipated by the reader. Faucet closed. From your stock-bottle of concentrated iron solution, pour two, three, or four ounces, as your formula or *judgment* dictates, which amount, remember, is being indicated upon your paper scale as you pour; then the water, acetic acid, alcohol, etc., all which is being measured and indicated in the same manner.

All sediment and floating particles will settle down to the neck of the holder, around and below the top of the tube C, and the clear and pure developer is drawn off through the faucet into the flowing-glass as required for use, quietly and easily. The use of the graduate with its attendant washing and risk of contamination is avoided.

For the use of other solutions where a certain amount is desired to be *measured off*, this device will be found very useful, the amount being indicated as drawn. The top of the holder should be kept covered with a cap of wood or pasteboard. *This is not patented.*

WILLIAM ROBERT BROOKS.

BRISTOL, IND., Feb., 1870.

SOME white children in Paris have turned black—the result of washing their faces in a photographer's nitrate bath.

RETOUCHING OF NEGATIVES.

BY J. GRASSHOFF.

(Translated for the *Philadelphia Photographer*.)

“THE retouching of negatives is the passing whim of photographers!” These are the words of one of our photographers, whose name is most familiar to all of them, a friend of mine, being his New Year's day salutation; and he furthermore added to my response, regarding the necessity of retouching: “I have hitherto done a good business without any applying of your artistic dodges, which you call negative retouching, to such an extraordinary degree as exhibited in your large bomb-heads, card size. This is called beauty, but this beauty is the work of art; the camera shows more nature, and I shall continue to prosecute my business without calling into requisition any of your superfine, negative polishing up.” How far my friend is justified in his expressions, I leave to the individual opinion of my readers; each one has his views, and it is well that tastes differ; but I need scarcely insist further, than that the retouching of negatives, as regards portraiture, has become a special necessity, for the results of its skilful application are sufficiently well known, and all that I here desire, is simply to be permitted to describe a few improvements in this art.

It is well known that not every negative varnish is suitable for the easy performance of negative retouching. My aim was to prepare the varnished film, and, by rubbing it with *ossa sepiæ*, to render it more susceptible to the action of a black lead-pencil. This method gave very excellent results, which I made known at the time. But during the past year I made experiments with other substances, in order to communicate, to the varnish a deadened surface, for instance, of powdered pumice-stone, but this scratched the surface when the latter was rubbed with it; also of fine emery, but this produced yellow specks; and of other materials. But I still kept to *ossa sepiæ*, until Mr. Petsch informed me a short time ago that he deadened the varnished surface with powdered pumice-stone, and that the results were very fine. My pumice-stone, which had been purchased at different stores, had,

therefore, probably not been sufficiently fine, and I, consequently, in order to be certain about the matter, undertook to electrify a quantity afresh, and then pass it through the sieve; prepared in this way, the material is indeed excellent. But a certain amount of caution is necessary in the application. The film of varnish must not be too thin; furthermore, if the finger is held in a horizontal position and the powder is rubbed on with the soft surface, the operation will be tedious, and the surface becomes rather polished than rendered rough. But by holding the finger almost perpendicular, and by applying a pretty hard pressure, the hard varnished film will in a few seconds assume a surface as deadened as that of paper; it is well, too, not to be too sparing with the powdered pumice, for it can be used over again when brushed off with a camel's-hair pencil.

The character of the varnished surface after the operation is quite different from what it was before. Formerly I used rather soft pencils in order to get very fine negative retouches; but now I scarcely use any other than the numbers 5 and 6 of Faber's manufacture (of course those of other manufacturers are equally applicable for the purpose). These numbers, too, sometimes parted with too much color on recently varnished surfaces, and whilst they were still soft; I, therefore, procured some metallic lead pencils (consisting entirely of lead), and have been highly gratified with the results. I have observed that the touches with these lead-points are not so easily rubbed out as those made with plumbago points; each touch is easily made and fixed.

The entire operation of retouching negatives is in this way materially facilitated; but I must remark here, *that it is altogether impossible to make a satisfactory picture from a bad negative, with whatever delicacy the retouching may be performed*, and I must dispel all those illusions in the most distinct manner, if it is supposed that a splendid negative can be produced from each bad plate that may be presented, by simply polishing up by negative retouches.

Mr. Grasshoff furthermore recommends, that in those cases where many prints have to be taken from a negative, the latter

should be revarnished. — *Photographisches Mittheilungen.*

SALAD

For the Photographer.

THE INTRODUCTION OF PHOTOGRAPHY INTO AMERICA.—The brother of Professor Morse, addressing a Sunday-school of which the Professor had been, in former years, a superintendent, says: "Prior to the relinquishment of his profession as a painter, however, your first superintendent was the instrument, in the hand of Providence, of introducing into this country (America), that great (I may say the greatest) wonder of our age, the new art of photography. Photography, under the name of the Daguerreotype, it is well known, was invented by the celebrated Daguerre, a French artist, who exhibited his first collection of specimens to the members of the French Academy of Sciences, in Paris, early in the year 1839. My brother was in Paris at the same time, exhibiting his telegraph to the same persons. Brother artists and brother inventors, thus brought together, each was invited to examine the other's invention; and my brother became earnest in his desire to introduce the Daguerreotype into America. On his return to New York, in April, 1839, he inspired me and my younger brother with a portion of his own enthusiasm. He was then entirely destitute of pecuniary means; and after ascertaining what was wanted to enable him to gratify his and our wishes, we removed the central part of the roof of our six-story building, covered it with skylight, furnished the new chamber with cameras and the other apparatus of photography, and, having thus completed the first 'tabernacle for the sun' erected on the western hemisphere, placed your first superintendent there to fix, for inspection through all time, the perfect image of men and things, as the great Painter, from his tabernacle in the heavens, flashed them upon the silvered plates. It was in that chamber that he who first practised the art of training in your Sabbath-school in 1816, trained the young men who went forth rejoicing from New York into every part of

our land, to work the wonders and display the beauties of the new art, eliciting admiration from all beholders, and from the devout the exclamation, which four years afterward passed in an instant through the wire from Washington to Baltimore, to be recorded there, while it was echoed everywhere: 'What hath God wrought!'

For nearly 18 years I have seen the shades and lights,—from the old silver plates of other days till the benign present. The other day, my mind was called from the present and set back to old times by an inquiry, propounded in a harsh, stentorian voice, as I sat at my table "touching up." A big hulk stalked heavily in, exclaiming, "Take picters here?" "Yes, sir," I replied. "What would you like to have?" "Do ye taik 'em *Daggery* or *Amery*?" Smiling, I replied, "We have the photograph process; one calculated to 'set off' the human phiz to the best possible advantage." "No, sir; I don't want any stilish picter. I jist want my *nateral feters pictered off*!" My subject took the chair, and 'put his forehead against the head-rest. I could not resist it, and took him an ironclad view of his dishevelled locks, brought it out and showed him a rear view. He looked intently for a moment, drew a breath, and said: "I s'pose that is a good picter of my back. Now please turn the picter over, and *let me see the face*!" Can any of our friends beat that for veridancy? If so, take o your pen. C.

WRINKLES AND DODGES.

A SPLENDID PASTE FOR MOUNTING PHOTOGRAPHS. — Take one quart of hot water and add of finely-ground *fresh* rice until thick enough to suit; then boil for one minute; add camphor to keep it from decomposing. This makes a white paste and is just the thing for vignettes. Vox.

A TONING solution that will work as soon as mixed, and any desired tone can be got with it with a very small quantity of gold, I make as follows: To 15 ounces of water add 15 grains of gold. This is solution No. 1. For solution No. 2, take 15 ounces of water, to which add 2 ounces of bicarbonate of

soda; shake well and dissolve; then add to this (a small quantity at a time) citric acid, until you have added $\frac{3}{4}$ of an ounce; filter, and it is ready to use. To tone, to about 8 ounces of water add 1 ounce each of Nos. 1 and 2, and a pinch of salt. If it tone too slow, add a little less water, or *vice versa*. This amount will tone about 4 dozen carte prints. I make my bath 40 grains strong, and keep it at that; if it shows signs of fogging, I pour it into a bottle and set in a water-bath on the stove, and bring it to the boil; then let it cool, and filter; then bring it to 40 grains strong by reducing or strengthening, as the case may be. Use any good collodion and albumen paper. I use the formula given below for developer. Silver solution for paper 35 grains strong, and fume ten minutes with strong ammonia.

DEVELOPER.

Water (distilled or ice water),	34 ounces.
Iron,	7½ drms.
Nitrate of Potash,	5¼ "
Acetic Acid,	1½ ounces.
Alcohol,	2½ "

By the use of the above I get good, clean, bright pictures the year round.

C. A. SMYTH.

I SEND you a recipe I have used for over three years for coating tin dishes, which I use for silvering paper, salting, toning, and washing. I have five tin dishes 30 x 24 inches, and 3 inches deep, which cost under ten dollars, while a porcelain of the same size would have cost me twelve dollars, so I got my set for less than the cost of one. I have but one fault to find with it, and that is, if the dishes are in constant use it is all right, but if permitted to stand unused for a length of time they crack, and I cannot prevent it.

Shellac (Orange),	3 ounces.
Gum Sandarac,	3 "
Balsam of Fir,	1 ounce.
Alcohol,	16 ounces.

Dissolve by heat and add, *as it is used*, enough ground slate (such as is used for plastic slate roofing) to make a tolerably thick paint. Apply with a flat brush; coat three times, and rub smooth with coarse sand-paper. Pure nitric acid has no effect on this surface. I have used such washing-

trays for months without any apparent change. If any crack appears thoroughly dry the dish and give it another coat, or the whole can be chipped off and a new dish made as good as at first. I strengthen my dishes by fixing them on a wooden frame.

A. ST. CLAIR.

PHOTOGRAPHIC WORLD.

THE Franco-Prussian war has confused our files of foreign exchanges.

OUR foreign contemporaries reprint much of the proceedings at Cleveland.

A SCOTCH correspondent of the *British Journal* favors a system of apprenticeship.

MR. ANDERSON'S "Dialogues" are highly praised and reprinted in the *News*. They are worthy of it.

MR. ENGLAND, the famed English photographer, was arrested by the Prussians while photographing on the Rhine, as a French spy. England is peaceful.

THE *Niepee* fund in Europe is growing. In this country very few responses have been made to the call in our last number. Where are the liberal and the grateful? Send a little.

M. CAMUZET read a lengthy report before the Société Française on February 4th, 1870, in which he proved that gun-cotton is not a chemical compound, and when made in collodion is partially soluble in water.

THE Bengal Photographic Society has held its twelfth exhibition. It excelled in the number and the excellence of the pictures all former exhibitions of the society. The Duke of Edinburgh, Lord Mayo, Viceroy of India, Lord Napier, and the Maharajah of Jeypour were amongst the visitors.

It is stated that a carefully prepared Albertype plate will stand 180 impressions. It seems that the "Lichtdruck" is still an unsolved problem, and that many improvements are necessary before it can be practically employed.—ALOIS NIGG, "*Photographic Archiv*."

A CURIOUS fact has been stated by Mr. Wanklyer; he has found that dry chlorine and dry sodium do not act upon one another.

If his experiments should be verified they would have a great influence on our theories of the formation of saline compounds, and some day we might be able to answer the question, "What is a salt?"

MR. ADRIAN, a Dutch chemist, has subjected the commercial bromide of potassium to analysis. He found in ten samples the impurities to vary from 37.2 to 8.4 per cent. The impurities consisted of sulphate of potassa, chloride of potassium, and traces of bromide of potash. The quantity of chloride varies from three and a half to thirty per cent.

AN English Judge recently gave it as his "opinion," that "photographs were odious in matters of art; they were mere distortions, and were eminently unsatisfactory to discuss questions" at law. If that was in this country, some of our bright, patent-process men would prosecute every photographer who disagreed with "his honor" as an "infringer."

MESSRS. MOORE BROS., Springfield, Mass., use a Polly Parrot to make their pictures of children. The pose is made, Polly is perched on the finger of the operator, held up to the view of the child, and the removal of the lens cap or cloth being the signal, flaps her wings just long enough for the exposure. She hardly ever fails to attract and get a good picture. She has thus officiated for about seven years. We saw her.

A few weeks ago, we saw a good deal of trouble, caused in the following way: The waste solutions of a large establishment were thrown into a barrel, and precipitated with sulphuret of potassium, in the room where the paper was silvered and dried. The fumes became very strong, and so affected the silvered paper at times as to entirely spoil it, by large stains and markings. Take warning.

THE Bavarian Colonel, Adolph Buhler, has invented an instrument for landscape photographers which enables the photographer to determine beforehand the position of the sun for any day and hour in the year. The instrument is called the helioscope. Such an instrument would also be a valuable aid in the construction of the glass-

houses. The details of construction have not been published yet.

M. FERRIER communicated that he no longer transfers his carbon pictures on albumen paper coagulated by alcohol, but that he uses in its stead albumen paper which has been silvered and fixed. He adds carbonate of ammonia to the chromate bath to make the bichromate of ammonia more soluble; the film becomes less sensitive but develops much easier.

CHLORAL hydrate, which recently has taken such an important place in medical practice, has found its way into the photographer's laboratory. The *Photographische Archiv* mentions, that to freshly prepared and slightly colored collodion (iodo-bromized), one per cent. of chloral hydrate was added. With a neutral silver bath it gave a good white film. The developer consisted of sulphate of iron and acetic acid. The plates were considerably more sensitive than those prepared without the chloral hydrate. The plates worked very clean.

AN inquiry was made in the Berlin Society for the Advancement of Photography if any of the mechanical printing processes were practised in the Berlin ateliers, and if the new invention is learned by foreign photographers. After some discussion, the following answer was given: "According to the best of our knowledge, the process is only practised in those establishments which teach the same." The second point of the question the Society did not feel competent to answer.

JANSSEN has found that the ultra-violet rays are visible to the naked eye in the Himalaya Mountains, at an altitude of 1000 feet, with a very dry atmosphere. He concludes that the ultra-violet rays are absorbed by vapor, and found this confirmed by passing the solar rays through a tube of 37 metres in length. He explains from this the experience of photographers, that the solar light has less activity in the afternoon, as the amount of vapor in the atmosphere increases as the day advances, and the air becomes chemically less transparent.

M. BONTEMPS presented to the library of the French Academy of Sciences the MSS.

of the great physicist Charles. Amongst these papers are the MSS. of his lectures on physical sciences. Perhaps he will describe in them the means which he employed in producing those portraits which at the time were the great attraction of his lectures. The historians of photography have always hoped to find in these writings the first step towards the discovery which has afterwards made the names of Daguerre, Niepce de St. Victor, and Talbot famous.

NOTHING NEW UNDER THE SUN.—According to Sir David Brewster the fundamental principle of the stereoscope was known already to Euclid, who wrote his "Elements" about the year 280. Later it was clearly described by Galle about fifteen hundred years ago. Finally has Baptiste Porta, the inventor of the camera obscura, in the year 1599, explained how the two different pictures should be made, and he not only explained the principle, but even indicated the construction of the stereoscope. Wheatstone, the English physicist, has generally been considered the inventor of the stereoscope; his apparatus, however, is essentially different from the one which is now in common use. His instrument consisted of two mirrors inclined at certain angles, each of which reflected the image towards an opening intended for the eyes. The convenient and handy form which is now mostly met with is the invention of Brewster.

OUR PICTURE.

Two years ago, or more, our readers were edified frequently and their curiosity aroused by the praises of the wonderful photographs of M. Adam Salomon, of Paris. We described them as nearly as we could, and very soon many were endeavoring to imitate the great master. We of course applied to M. Salomon for negatives to print from for our Journal, but met with no response. Friends then applied for us and obtained a promise, on the strength of which we promised our readers that they should be treated to prints from negatives by M. Salomon. They have no doubt ere this abandoned all hope of ever realizing that

promise, however, yet in this issue appears the coveted picture.

About a year ago our friend Mr. David Bendann, of Baltimore, returned from Europe, the most successful of all who had interceded for us with M. Salomon, and handed us *two* cabinet size negatives from him, cut down from 8 x 10 size. They were full of pinholes, weak, worn, thin, and certainly not very encouraging in their appearance, especially when we required nearly three thousand prints from them for our purpose. We almost feared to begin, but we remembered our promise, and for about ten months the good work has gone bravely on, meeting with but one drawback, namely, the breaking of the best negative of the two, a few weeks after the work began. We almost despaired then, and made bold to write M. Salomon for another. He has not responded yet, and meanwhile the prints are finished. Our printer is glad and so are we. The greater number are from the negative of the old man with the glass. It is full of merit, yet one of M. Salomon's worst. It will not strike our readers as

anything so very astonishing now, because while we have been preparing these prints they have worked up towards M. Salomon, and the surprise we hoped to give them, and the lesson we hoped to impart by this picture, is in a measure lost. However, there is much to study here, and we hope the picture will do good.

Much of the excellence of M. Salomon's work is due to the printing, and of course that much we lose in these, for no one could give the same attention to thousands of prints that M. Salomon does to producing each one of his exquisite results.

Those who have seen his work at the Boston and Cleveland Exhibitions will appreciate this fact.

Our printers have done well, and the best they could. The remaining negative, though it looked poorly enough when we got it, is just as good as ever yet.

The prints were made by Messrs. Sudards & Feunemore, No. 820 Arch Street, Philadelphia.

We have some gems in preparation for our coming issues of this year.

Editor's Table.

HOW TO BECOME A MEMBER.—Photographers who wish to be identified with the National Photographic Association, and to share its benefits, may do so by applying to Edward L. Wilson, Permanent Secretary, Philadelphia, Pa. Remitting \$4,—\$2 for entrance fee and \$2 for dues up to June, 1871,—and certificate of membership will be sent. *Employers half rates.* Come, *now*, grow with its growth and share the honors.

PAY YOUR DUES.—Members of the National Photographic Association, pay your dues. The treasurer asks us to call attention to his *Card* on first page of our last number.

OUR NEXT PRIZES.—Remember that October 15th, is the time when the prize negatives must all be in. Some are already received. We hope you will carefully read over our offer and make the number large of excellent negatives.

WANTED.—Copies of our first volume, for which we will pay \$5. Mosnics for 1868 also wanted. Dealers or others, having copies, will be paid fifty cents for them. The article in it to

"A Class of Troubled Photographers," is much sought after, and our supply is long since expired.

THE NATIONAL PHOTOGRAPHIC ASSOCIATION MONOGRAM.—We still await designs for the monogram, and hope the members of the National Photographic Association will *this month* send in their designs, if they have any, or get others to draw them, as we want to decide upon and publish it in time for the holiday trade.

Mr. W. H. Kibbe, Johnstown, N. Y., and others, have already sent in designs.

Mr. G. H. Loomis, who has been in Europe some weeks, has written us a pleasant letter from Luzerne, where he is recuperating his health. We hope he will entirely recover by the time he returns, as he is valuable to the trade.

ADDRESSES WANTED.—The Secretary of the National Photographic Association would be obliged for the addresses of the following members: Alfred Hall, William Shaw, W. A. Carson, P. M. Pool, and H. P. Buncker.

GIANT'S CAUSEWAY.—Mr. Geo. Washington Wilson, Aberdeen, Scotland, has presented us with some excellent negatives of this great wonder of nature, with the sea in the distance, prints from which will appear in our Journal early in the new year.

Mr. W. H. JACKSON, the enterprising young photographer at Omaha, has gone to the Rocky Mountains with Prof. F. V. Hayden, the government geologist, on a photo-geological expedition of about three months. The negatives, which will be good, are to be printed by the Woodbury process we are told.

WHAT THEY SAY ABOUT CLEVELAND.—We have a great many letters from those who were at Cleveland, speaking of the good it did them. Send us some more, and in our next issue we shall make extracts from them, want of space preventing this month.

A NEW material for pictures has just been introduced by the Phenix Plate Co. It is *paper*, treated with varnish the same as the ferrotype plate, and intended as a substitute for the latter. It can be used as a ferrotype plate, or it can be split apart, and the pictures mounted the same as an albumen print.

DR. VOGEL.—Before this reaches you, our pleasant, genial, earnest, common friend and co-worker, Dr. Vogel, will be sailing to the Fatherland (as at this writing he expects to sail on the 25th of August), via England. He regrets to leave America, and American photographers regret to have him go. The hearty welcome which he has received from the photographic fraternity, and men of science as well, wherever he has visited, has seemed to overwhelm and bewilder him, and as he says, his visit seems like a wild dream, which he can only realize during months to come. Photography has no more active and worthy advocate than he. His writings in our pages have proven that, besides binding him closely and warmly to those whose good he seeks to further. May his journey be pleasant and safe, and these pages soon brightened again by his welcome letters. Would that he could be "a dweller among us."

PROF. C. PIAZZI SMYTH, Edinburgh, Astronomer Royal of Scotland, and the great Pyramid Photographer, has favored us with copies of his argument against French weights and measures, and also of his excellent "Report to the Board of Visitors of the Royal Observatory, June, 1870." The latter is teeming with interest and valuable information.

THE NIEPCE FUND.—Very few responses have been made to this very worthy matter. Shall we be behind in our charities? If only ten cents were sent from each one, it would be a grand testimonial to the worth of the noble Niepce, who actually died in his laboratory while working for photography.

"ROBINSON'S PICTORIAL EFFECT IN PHOTOGRAPHY, has opened my eyes and made me a new man," writes a correspondent. It is an invaluable book and entirely fresh. See advertisement.

KURTZ.—A Paris correspondent, commenting upon the pictures at the late photographic exhibition there, says, "I must confess the prize is most undoubtedly due to Kurtz of New York."

NEW ENGLAND PHOTOGRAPHIC ASSOCIATION.—Just two days too late for publication the minutes were received, and must lay over for our next. A very enthusiastic meeting was held to receive and welcome Dr. Vogel, at which he made an address. Full particulars in our next.

NEW BRUNSWICK PHOTOGRAPHIC ASSOCIATION.—A society has been formed in St. John, N. B., which has been named *The New Brunswick Photographic Association*, which, although merely local at present, is intended to comprise all the professional, assistant, and amateur photographers in the Province who may wish to join it.

The officers for the present year are:

President, C. Flood. Vice-President, J. D. Masters. Directors, J. Hinch and J. McClure. Secretary, A. A. Watson. Treasurer and Corresponding Secretary, J. R. Woodburn.

The Association will hold regular meetings the first Tuesday in each month.

We welcome this new society, and hope it will receive all necessary courtesies from others. The corresponding secretary begins his good work by sending the following, which may be useful information to American photographers also:

"A process-monger in the shape of a Mr. Sprague, a man who has lost one of his thumbs, has recently visited our city. Result: A brother photographer victimized to the extent of \$25, in order that he might know that India-ink mixed with gum was good for the purpose of retouching negatives; the sum total of information not a tithe of what is to be found on page 260 of your last volume. *Moral:* Subscribe for, and read the *Philadelphia Photographer*."

ANOTHER NEGATIVE RETOUCHING IDEA.—Messrs. Irish & Lawrence, Bridgeport, Conn., have favored us with some prints from negatives treated by them in a secret way, which are accompanied by prints from the negatives *before* they have been manipulated by them. A negative lacking contrast, or one in which the subject is too evenly illuminated, is quickly made so that it will print with great brilliancy and effect. An enlarged negative from a carte or other photograph, rough and coarse as such copies always are, may soon be deprived of the most of its roughness and the face rendered as smooth as it could be by a great deal of laborious retouching. Our only regret is that the process is a secret, and as a usual thing we give no sanction to such things, but these gentlemen, understanding the prejudices of the profession, make such a fair offer of terms, that we venture to call attention to their advertisement, for we believe what they have to be useful to our readers, as a purchaser on whom we can rely states that it is. Mr. Irish writes us that he has applied for a patent, and if any of our readers think that he is "guilty of any injustice or gonging," let them write to us and we may expose him. Let our readers, therefore, keep us well posted.

The *Rye* photo-lithographic process, similar to Albortype, is being pushed in New York, Mr. D. H. Anderson, of Richmond, Va., being interested. Samples received from him are very promising.

MR. R. BENECKE, St. Louis, Mo., sends us some very pretty stereos, made with the Steinheil lens, of the steamer R. E. Lee, which recently won in the race on the Mississippi River. They were taken with the steamer running at the rate of fourteen miles an hour. He writes, "In good light and with good chemicals, I am quite sure that these lenses can be used for instantaneous work."

RECEIVED.—From Mr. S. F. Adams, New Bedford, Mass., some stereos of Dr. Vogel and friend, in front of the Tip Top House, Mt. Washington.

From Mr. H. L. Bingham, Kalamazoo, Mich., some excellent medallion cartes, showing great progress since he visited the Exhibition.

From Messrs. Kohl & Tyler, Cincinnati, Ohio, some very fine stereos, showing excellent workmanship. The Regulation Stereoscope made by this firm was one of the greatest attractions at Cleveland.

From Messrs. C. D. Fredericks & Co., New York, through Mr. Hugh O'Neil, the "Co.," some splendid cabinet pictures, that are not excelled.

DEATHS.—Mr. J. T. Upson, of the well-known firm of Upson & Simpson, Buffalo, N. Y., died last month of consumption, aged 41 years. He was an excellent photographer and a good, genial man.

Mr. N. G. Burgess died at Brooklyn, N. Y., of consumption, July 13, aged 56 years. He was the author of Burgess's "Manual of Photography," which was published a few years ago, and reached several editions. He was an old-time photographer, and will be well remembered. When we last saw him he was leading an anti-bromide meeting in New York. He was ill a long time.

ANSWERS TO CORRESPONDENTS.

B. F. HALL, Lansing, Mich.—Thanks for picture, and good wishes.

C. H. FISHER, Calvert, Texas.—You will find instructions for printing on silk in our back numbers. See next issue also.

G. W. SITTLER, Shelbyville.—The "lack of brilliancy," you complain of in your ferrotypes, is probably caused by your collodion containing too much bromide. Make a collodion of 5 grains iodide of potassium to 1 grain bromide of cadmium. Mix it with an equal portion of your old collodion. If that does not give you intensity enough, try for collodion as follows:

Alcohol and Ether,	Equal parts.
Iodide of Ammonium,	5 grains.
Bromide of Cadmium,	1½ or 2 grains.
Papyroxyline,	4 grains.

DEVELOPER.

Rain Water,	16 ounces.
Iron and Acetic Acid,	1 ounce each.
Alcohol,	1 ounce.

You will like it.

CONSTANT READER, New Orleans.—Don't understand what you mean by "mixed collodion." See article on page 47 of Volume III, by L. W. Baquie of your city. Also answer above.

CHAS. HOMAN, New Haven, Conn., wants to know "how he can float a film off in water and pick it up, on something else?" Answer: Coat your film, if dry, with a solution of India-rubber 1 part, in benzole 100 parts. Let it dry, and pour on collodion made as follows:

Castor Oil,	2 parts.
Cotton,	2 "
Ether,	50 "
Alcohol,	50 "

Put the plate in water, and your film will be easily removed, if you cut the margins with a knife.



ORIGINALS BY
 LÖSCHER & PETSCH,
 BERLIN

GENRE PICTURES.
Boston Public Library.
 "GEMS OF GERMAN LIFE."

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T H E

Philadelphia Photographer.

Vol. VII.

OCTOBER, 1870.

No. 82.

Entered, according to Act of Congress, in the year 1870,

By BENERMAN & WILSON,

In the Clerk's office of the District Court of the United States for the Eastern District of Pennsylvania.

SUBSCRIPTION EXPIRED.

IN order to accommodate those who do not find it convenient to remit for a whole year's subscription at once, we make our terms so that they can remit quarterly or semi-annually at the year rate, with only the additional cost of postage and trouble of writing oftener.

Notwithstanding such liberal terms, we frequently get letters saying, "Don't stop our Journal when our time expires; we want to take it right along, and when you want money write." Now, this is more than we ought to be asked to do. Our subscription-book is so arranged, that when your time expires the Journal ceases to go to you, and if you do not get it at the regular time, be assured that it is *your* fault and not ours.

Much of our time is taken to write to subscribers needing information and assistance, and, in return, we have a right to expect them to keep their subscription paid. Our subscription clerk knows when your time expires, but we do not, and as our terms are in advance it is for *you* to see that your Journal is not stopped.

We shall endeavor to be useful to you so long as we are spared to conduct the *Philadelphia Photographer*, and hope to deserve your good will and continued patronage.

OUR NEXT PRIZES.

OCTOBER 15th is the time when all the competing negatives and prints for our next prizes must be in our hands, and on that day the gentlemen selected for that work will make the examination.

We earnestly hope that some fine things are in preparation, and that we shall be thus enabled to present with our new volume, better pictures than ever before.

Remember, at least *two* negatives and prints therefrom, of the same subject, must come from each competitor. Please read our offer in subsequent numbers.

OUR PICTURE.

A COMPARISON of the work of American photographers exhibited at Cleveland, with that of foreign artists, convinced us that we are behind in two very important branches of our art, namely, in composition and in landscape work.

In general portraiture, and in variety of style, we are perhaps as far advanced as our foreign co-workers, but the two points we have named need looking after in this country before we can claim equality in *all* respects. As a journalist, therefore, it behooves us to be awake in the matter and to call attention to it. We shall go further,

too, and present to our readers examples of work which we hope will lead them to practice in the directions we have named, and hope they will show us how far they have advanced, at the next annual exhibition. This is our purpose in presenting the picture we do in our current issue.

Messrs. Loescher & Petsch, Berlin, Prussia, who are, without doubt, at the head of the profession in this style of composition or *genre* work, have for about a year been producing pictures of this class for the stereoscope, of exquisite beauty, and photographically and artistically excellent. We have obtained *forty-eight* of these, had them mounted on a card and reduced negatives made of them, in order that our readers may see as many of them as possible, and have an opportunity of studying them. Small as they are, they will be readily understood, and we hope, appreciated. The variety of pose and design must at once strike the observer, as well as their excellence as photographs and works of art. There are no two alike in conception, and every one tells a story, familiar to all who look upon them. For this reason the series has been named "*Gems of German Life*."

All photographers know how they dislike to group a number of figures in one picture, first, because they know they are incompetent to make anything very pleasing, and second, because one or more of the figures is pretty sure to move and spoil the picture. With the quick lenses we now have, this last trouble is easily overcome, if the photographer is watchful, and this picture will give many suggestions for obviating the first difficulty mentioned.

The trouble is, not only with American photographers, but with photographers *generally*, that we strive more to make portraits than we do to make *pictures*, and therefore our work assumes a stereotyped appearance, which *must* be changed. We should strive to make *pictures* as well as portraits, and now we have the examples before us, there is no excuse for not making the effort.

"Will it pay?" Certainly, thou mercenary artist, fear not. Where are the parents who would not be overjoyed to have a picture of their daughter and son like

No. 21,* "*The Young Rembrandt*," sketching his schoolmaster's portrait on the wall, sister May and the baby looking intently on? Where is the grandpa who would not pay a good price for little Fred and he, in a group like either 11, 13, 22, 29, or 43? or what grandmamma would not like No. 2, or 24? Nos. 4, 5, 14, 25, 33, 37, 38, and so on, are all capital child groups, and there are many others equally good for the grown people, singly and in groups, that would be equally acceptable if our photographers were only disposed to make them. The accessories are not extravagant, nor need they be. Good taste and judgment to begin with, practice to continue with, and as a conclusion, the result will be a good business. We would also recommend making such groups for the stereoscope. Although the sale of stereoscopic pictures is perfectly immense, yet the portrait photographer does not share the reward of such sales so much as he might.

At Cleveland, Mr. F. L. Stuber, of Bethlehem, Pa., exhibited some specimens of "*Gems of American Life*," after the German, which were very creditable, and he is working out more. Mr. Griswold's "*Blowing Bubbles*," in our last February No., was also a very creditable production, as well as Mr. Notman's "*Discussing a Sketch*," in our fourth volume. We recommend the stereoscopic size for various reasons,—1. Card pictures if wanted may be made from the same negatives. 2. If your pictures are good you can find a ready market for their sale. 3. Stereoscopic pictures are of more interest than others when collections are to be made. Parties who buy such things will make a collection of stereographs, where a size fit only for framing or the portfolio would meet with very little patronage comparatively. A lot of negatives like these is a little fortune.

We happen to know that the first order Lœscher & Petsch took from their Ameri-

* In numbering these we begin at the top row, left hand, and each row again at the left, viz.,

1, 2, 3, 4, 5, 6,

7, 8, 9, 10, 11, 12,

13, 14, 15, 16, 17, 18,

and so on.—Ed.

can agents for these pictures from their negatives was for *one thousand dozen*, and that the order has several times been duplicated. Here then is a field open for you which promises well.

Permit us in this connection now to call your attention to our series of articles in our fourth volume, entitled "Art Principles Applicable to Photography." You will find in them some instructions which we trust will aid you in working in this new field. We also commend the study of Mr. Robinson's excellent work on "Pictorial Effect in Photography," which will also be found an exceedingly useful helper. We make a few extracts from it in closing, which will give an idea of its nature and value.

"The composition of a portrait group depends very much upon the character of its constituents. Two or three children, if they are not excessively stupid samples, are very easy to group together, and, when well done, make the most agreeable and natural pictures; while two adults, especially of the male kind, although easier to photograph, seldom make an effective composition.

"The great art in the composition of a group is in so arranging the figures that they shall have some relation to each other, as well as the ordinary elements of pictorial construction. There should be some bond of union between those who compose the group; some incident should be represented in which they are mutually interested; or something must be imagined out of the picture to attract the attention of both, if only two are represented, or of many of them, if there is a number. The figures should be massed together, and not scattered over the picture so as to make it necessary to examine each portrait in detail, until it has been seen, and the effect agreeably felt, as a whole."

"It is not necessary, in representing two persons in conversation, that they should be looking at each other; the effect of listening can be rendered without putting them to that trying ordeal. It constantly happens that in conversations even on the most important subjects, the talker and the listener do not look at each other, although, even if the sounds were not heard, it would be obvious from their appearance that the

persons were in conversation. One point which should command the attention of the student is, that there should be variety in the heads, not only as regards profile, three-quarter, or full face, but in their position on the paper. Thus, it is difficult (although possible) to obtain much pictorial effect out of two figures of exactly the same height standing together; in such a case variety must be got in the lines of the different figures by varying the direction of the bodies, by the arrangement of the arms and hands, and by the disposition of the accessories and background.

"It is by the amount of perfection with which he succeeds with groups that the photographer will discover the power that is within him."

These forty-eight pictures, as we have said, were made from one end of the stereoscopic size, pasted on a card neatly, and black lines drawn between and around them with India ink. Mr. William H. Rhoads, of Philadelphia, made the negatives (which are exceedingly fine as reproductions), and the prints. He used the Steinheil Aplanatic Lens in making the negatives, and printed on the Trapp & Münch albumen paper.

The American agents for Messrs. Lœscher & Petsch, are Messrs. Wilson, Hood & Co., No. 822 Arch Street, Philadelphia, who continually have a fresh, large stock of these grand stereoscopic pictures on hand. Moreover, they have fixed a reduced price to photographers who desire to purchase them for study, and such parties can order by giving the numbers in the way we have indicated. They will be found very advantageous. The figures are generally quite large. They can be sent by mail, and we are requested to ask of those who order them, that they state that their order is given by the picture in the *Philadelphia Photographer*.

We consider this one of the handsomest illustrations we have ever presented, and hope to see its effect upon our enterprising readers. Our December issue will contain another example of Composition Photography, by Mr. Notman, of Montreal.

THE plate should remain in the bath at least twice as long in winter as in summer.

ENLARGEMENTS ON COLLODION FILMS.

BY PROF. J. TOWLER, M.D.

Transferring of Collodion Films to Paper.

—This is a branch of photography that deserves to be better known and, consequently, a more extended practice. It is my opinion, founded on experiment and practice, that most of our retouching ought to be made on collodion positives, because it can be executed so much more easily on them, by those who are not familiar with negative operations. For instance, how comparatively easy is the task to produce the proper lights and shades when not reversed, but existing as they do in nature; whilst, on the contrary, how difficult it is for the uninitiated to reverse the lights and shades. The engraver and the wood-cutter require to be apprenticed for years to the art, before they can claim to be masters in it. Thus then, I argue, that it is a more natural and easy practice to take a positive of each negative that requires retouching, and then to retouch this positive. A more extended practice would be first to retouch the negative, and afterwards the positive.

The reason of this suggestion is self-evident; for, all that can be done in the way of retouching consists in rendering certain parts more dense, and thus heightening the high lights; it is impossible at present to render any of the parts separately less dense than their neighbors. The action, therefore, of retouching is altogether one-sided. But that which we cannot effect by the retouching of the negative, such as more sharpness and brilliancy to the lines about the eyes, more shadows along the side of the nose, above the chin, or in the cavities of the cheeks, all this can be easily worked in on a positive copied from a retouched negative; in fine, an artistic and almost perfect picture can thus be obtained from a negative copied from a retouched positive, which in its turn had been copied from a retouched negative.

All this sounds like circumlocution, and may appear to some as superfluous labor, or labor that could possibly terminate in nothing good.

I can assure my readers, however, that

the plan is feasible and practicable, and that the results are all that the most fastidious artist can desire. The retouching, naturally, must be the work of an artist. As regards the photographic manipulations arising out of this plan, I have especially much to say; for, although copying is in the general sense an easy operation, it is seldom a successful one; because the necessary precautions are seldom taken to insure success. This assertion is particularly true when enlarged copies have to be taken, either from negatives or positives. I have two or three letters on hand from correspondents asking assistance in their difficulties in this department. One says he has a stock of half plates, containing negatives of landscapes got up with reference to be copied either in the solar camera, or into larger negatives for contact printing, but that they all fail more or less to produce good results, for when magnified from eight to ten times, the lines, which in the negative appear sharp and crisp, are in many instances *double*, and the whole picture has a hazy look. He furthermore states, that the solar camera is all right, plateholder and focusing glass in rigid coincidence, and the negatives sharp, soft, and transparent. "What am I to do?" is the terminal sentence.

What do you think can be the trouble?

There is more than one trouble.

In the first place, whether in the photographic studio, or in the fields, the utmost precaution is necessary in taking off the cap from the lens; for the slightest motion of the camera during exposure is sufficient to produce a negative that will give rise to *doubled* lines in the enlargement, although such lines are imperceptible in the negative. But such a motion is almost unavoidable in landscape photography; there is rarely an opportunity once in twenty times on days when every leaf is still and Eolus has shut all his winds. The slightest breeze, the slightest breath of air, will spoil a negative for the purposes in question. Add to this also the flimsy nature of the tripods and cameras, and when we reflect well upon the subject, we shall not wonder that so many lines become doubled when magnified.

Again, it is the common practice to work with short-focussed lenses in getting nega-

tives for the solar camera, or for enlargement otherwise. The consequence is that the principal object, or at least the part focussed, is sharp enough, but all the rest is more or less out of focus. Such a negative is not fit for enlargement. In such an instance as this, the best plan is to retire from the object as far as possible, to use a long-focussed lens, and thus take a small negative at a distance, where every object appears to be in focus. It is worse than useless to include in the picture any part that is in the slightest degree out of focus. For instance, with a lens of twenty inches focus, and at a distance of a quarter of a mile and beyond from the principal object, it is possible to obtain a quarter-plate negative just about sharp enough to admit of being enlarged. A larger plate you can scarcely accomplish.

Thus, you see, the requisites for success are a perfectly motionless camera during the exposure, and a long-focussed lens used at a long distance.

Another correspondent puts this question: "Is it possible to prepare an eight by ten negative, enlarged from a quarter-plate negative, as sharp as a negative taken directly of this size by means of an appropriate lens?"

My answer is this: It is barely possible; but from the difficulties just mentioned you see the precautions to be taken, and if these are not taken, the task is not possible. Supposing there is just a mere breath of air when both the negatives were taken, that is the quarter-plate for the solar camera, and the eight by ten for direct contact printing, this breath of air instituting a slight quiver in both cameras, which makes itself manifest in the two negatives to an equal extent, although quite trifling in both cases. Now when the quarter-plate is magnified some ten or twelve times, this self-same error is magnified ten or twelve times, and hence the two negatives are vastly different.

In the photographic studio we do not have to contend with the wind; notwithstanding this, every precaution already alluded to must be taken, in order to meet with success. There is a refinement in this department far ahead of anything in the common everyday occupation of taking neg-

atives, and the result of this refinement is success.

Following out the suggested plan, then, we must first take a good negative, a portrait, for instance. If it is troubled with a single pinhole on the face, take another and another, until you are perfectly satisfied. It is seldom the case that such a negative is sharp everywhere, and probably there are freckles or pock-marks to be removed. You proceed, therefore, to the retouching frame, or hand the negative to the retouching artist, whose duty it becomes to fill up the unsightly cavities. This done, the next operation is to copy the negative into a transparent positive. I need scarcely remark, that you will not succeed in getting a good copy unless everything about the camera is accurately in order, and distances coincident, and you focus with extreme sharpness. Having succeeded in obtaining a correct and sharp copy, you are in a condition to discern where certain lines may be rendered more distinct, certain shadows more determined, and certain parts, as the back hair, or drapery, may be brought, as it were, into focus. Your artist can do all this, both on the negative and the positive, with a good black lead-pencil, the films having been previously varnished and rubbed with very fine pumice-powder, as indicated in a previous article. At this stage your transparent positive ought to be as nearly perfect as possible; for it can be made so with proper care and perseverance, and with proper artistic taste and skill in the manipulations.

Even the negative of a landscape may frequently admit of similar treatment and improvement; but I must urgently advise every one who intends to experiment in this direction, or to make a practice of solar enlargements, to exclude almost all extraneous objects, and *to make one object his principal object*, and, as before recommended, *to take the view with a long-focussed lens at a long distance*. In this case very little retouching will be needed; and this mode of proceeding is the secret of success.

Having in this way secured satisfactory transparent positives, they become, as it were, your stereotype plates, from which you are enabled to prepare as many negatives,

and of whatever size you may desire, and all of them of equal intensity. Every operation is under your control. Some may object that it is impossible to obtain copies equal to the original. The objection has no weight; it is simply asserting that you can not get a print equal in sharpness and detail to the negative, which is absurd. Of course, extreme care is absolutely required, in all the operations.

You are now supposed to be provided with corrected negatives, of the same size as the original, as also of larger dimensions for contact printing. The smaller negatives are of two kinds, the one intense and thick for contact printing, and the other thin and more transparent for copying or printing in the camera. The latter now claims our attention.

Transferring of Collodion Films to Paper.

—The glass intended to receive the transparent positive, which is afterwards to be transferred to paper, is previously well cleaned and then rubbed over with a little white wax dissolved in ether, after which the surface is again polished with a clean silk cloth. I use an ammonio-cadmium collodion, one that is perfectly colorless, for this purpose, consisting either of iodide of cadmium and bromide of ammonium, or of bromide of cadmium and iodide of ammonium. The pyroxyline has been previously washed in ammoniacal water, washed and dried, and the ether and alcohol redistilled from lime. In this way you cannot fail to get a colorless collodion, if it is allowed to stand a day or two in a dark-room. With this collodion a positive is obtained of any required size, in the copying camera. Give abundance of exposure, and when by development, all detail is quite apparent, wash and fix the picture; whilst the latter is still wet, tone it, first for a moment or so, with a dilute solution of chloride of gold, afterwards with a solution of bichloride of mercury for a very short time. This proceeding will render the film sufficiently black. Wash the print, and then dry it.

Paper to receive the collodion film is naturally plain paper previously washed over with a solution of gelatine, ten grains to the ounce, or it is floated on such a solution and then dried. Cut out a piece of this paper

of the required size, and let it float, gelatine side uppermost, on a dish of clean water, until it lies quite flat on the water; now draw once through the water quickly, and let it drain. The paper is now bent, gelatine surface downwards, and lowered upon the collodion film, so that the middle part comes in contact with the film first, after which each side is lowered gradually. The intention is to get contact between the films, without any bubbles, which are to be removed in every case before pressure is applied. Finally, place over the paper a few thicknesses of blotting-paper, then a flat board, and over this a quantity of weights. As soon as the paper becomes thoroughly dry, you proceed round the edge of the paper with a sharp penknife, and cut through the collodion film, and afterwards raise one end of the paper. It is now easy to raise the whole piece gradually; and, as you will observe, the picture is on the paper, and a brilliant picture it is.

N. B. In order to preserve the picture in its natural position, that is, without lateral inversion, the negative is placed, whilst copying, with its film towards the light.

On Various Photographic Subjects.

BY M. CAREY LEA.

REDUCING INTENSITY LOCALLY.

It will occasionally happen that, in developing a plate and striving to get detail into shadows, there will be some brightly-lighted object that will come out with very undesirable rapidity. And it may prove that, instead of having stopped the development at the right point, we have carried it far enough to make this light object too dense, so that, on inspecting the fixed negative, we foresee without difficulty that the object in question will print white and without detail.

As this spoils the negative, in the opinion of all good judges, it is probable that most photographers have tried their hands at repairing the mischief. It is very easy with a weak solution of cyanide, applied with a brush, to quickly thin the deposit. Unfortunately, however, the action is not con-

fined to the object in question, nor to the portion touched by the brush, but it rapidly spreads to the neighboring parts, and in a few moments the negative is definitively ruined; there is a thinner transparent space made, which spoils the printing.

It occurred to me, about the middle of last summer, that the difficulties in this operation might be removed in a very simple way, and the method rendered useful. This was by simply *sizing* the film before applying the reducing agent. A trial resulted in immediate and complete success. The mode of operation was as follows:

A sixty-grain solution of good gum Arabic was made, and a few drops of carbolic acid added to make it keep. The negative (if dry) was first well wetted with water, and the gum solution poured upon it, worked in, poured off, a second portion poured on, worked over the plate, and then the plate set up to dry.

The reducing agent selected was perchloride of iron, for which also muriated tincture of iron may be substituted. In either case, the solution is to be very much diluted until it shows a pale straw color. It is next to be applied on the plate, using a fine, thin elastic pencil, going over it gently, and with repeated applications, until a sufficient reduction has been obtained; the solution is then to be carefully washed off, and in this washing the gum is also removed. If it be afterwards found that the reduction of density is insufficient, the photographer must on no account attempt to continue it without applying a second sizing, precisely in the same manner as the first.

This method has a real utility. The film, which previously allowed the liquid to spread, like blotting-paper, loses this tendency by the sizing, and it becomes easy to keep the application to the exact spot desired. The detail, which had been covered up by excessive deposit of silver, reappears under the reducing agent, and, if the operation be nicely managed, a negative, previously worthless, may be got into excellent printing order.

It seems not improbable that an intensifier might be applied very much in the same manner, and parts too thin to print will be

brought up to a satisfactory thickness. This experiment I have not yet made.

BACKING FOR DRY PLATES.

The necessity for backing dry plates is now pretty generally acknowledged, and probably nearly all the best dry-plate workers adopt the method. It is nevertheless a fact, that the desired end is not always attained, and that "blurring" will sometimes appear upon plates that seem to have been well protected.

For example, a mixture of Spanish brown, gum, and sugar has been highly recommended, and I have joined in the recommendation. Yet I have seen very sensitive dry plates, thickly coated upon the back with the above mixture, give distinct evidence of halation when over-exposed.

I attribute this effect to the presence of a great number of minute pinholes which form in this backing; each lets in a minute pencil of light and allows a minute internal reflection, and the aggregate of these small influences is sufficient to materially injure the protective qualities of the application.

The true way to test the quality of a backing is one which Major Russel first pointed out, and which I used independently long before I was aware of his recommendation. It is to observe the reflection of a distant candle, in a dark-room, from the uncoated side of a piece of glass. The glass should either be a common piece of blown glass, with the two faces not exactly parallel, or else a very thick plate. The object is to separate as much as possible the two images, the one from the front, the other from the back, surface of the glass. Having ascertained by trial with any particular piece of glass that it separates easily and distinctly the two images, some of the intended backing is to be applied, and, before trying it, it must be left to become *perfectly* dry.

When tested in this way, the coating, already described, gives faint, but quite distinct, indications of the second image, showing that its protection from blurring cannot be perfect.

Annatto has a certain peculiar and almost greasy character that causes it to give a continuous film on glass, quite free from the minute holes just mentioned. The coat

which it affords has, however, a certain want of density when held up to the light. Annatto does not dissolve in water, though it softens when left for twenty-four hours under water before attempting to mix it up, and this should always be done.

It seemed to me tolerably clear, even before making the above-mentioned experiments, that no wholly opaque pigment put on the back of glass could be expected to stop entirely the internal reflections. I therefore tried some experiments with transparent colors. I found my expectations verified, and that with a transparent color I could wholly destroy the internal reflections. And that, even when this was not completely done, the second image was tinged so strongly with the non-actinic color of the backing that its presence was wholly unimportant. It was difficult to find the right sort of colors, however. The best proved to be the soluble aniline brown. This gives an almost blood-red coating, which destroys every trace of blurring. When submitted to critical tests, it is the only substance amongst those that I have tried that has done so.

It is very easily used. One part of aniline brown is added to about twenty of hot water, and well stirred up. It does not wholly dissolve; but when ground in a mortar with some powdered gum Arabic and white sugar (about 3 parts of gum to 2 of sugar), using enough to make a very thick paste, it gives a homogeneous coating. Annatto may be mixed with this if desired, but I have not found it necessary.

Before developing, this backing is easily sponged off. I have carefully examined whether traces of aniline brown in the developing bath injure its action, as this would be a sufficient objection against any application. I find that they do not. But if the coating is put on too thin, so that it runs down to the lower edge, and works round the edge upon the film, this will cause a local insensibility, which does not, however, extend more than a very short distance from the place of contact.

In keeping any mixture for backing plates, it is a good plan to add to it a few drops of carbolic acid to prevent moulding.

MANIPULATION OF NEGATIVES, WET OR DRY.

The following idea seems worth trying, though I have not at this time been able to experiment with it.

If a negative is found to have too great contrasts, so that if printed sufficiently to get detail into the high lights, the shadows are overprinted, it might be subjected to the following treatment: Coat the back of the plate with a sensitive mixture—collodion-chloride, gum and bichromate, gelatine and bichromate, or any other—and expose briefly to direct sunlight, the face to the light. The negative will print itself on its own back, and thus we will have a positive (which should be faint) superposed on a negative.

A little consideration will show that, if this negative be now printed in the usual way, the impression on the back will be thickest on the shadows, and thinnest on the high lights. It will thus hold back light from the thin parts, whilst scarcely doing so from the high lights. Indeed, if the operation of making the image on the back of the negative be cut pretty short, the high lights need not receive any impression at all.

I think there is little doubt that a good deal might be effected in this way, both in landscapes and portraits. Suppose the face in a portrait is specked, and gives the effect of a bad complexion, a treatment like the foregoing would or might take the place of a retouching.

A negative so treated might be printed either in sunshine or shadow; the effect of the latter would probably be to give great softness.

It seems to me likely that the most advantageous method would be to make the back coating of gum and bichromate, because any portions not wanted of the back image can be instantly wiped out with a rag and hot water, or better, with a fine sable pencil dipped in hot water.

Of course, the sensitive mixture would need to be applied to the back in the dark-room. During the printing of the negative upon the coat on the back, this coat would need to be carefully protected from light. With the mixture of gum and bichromate, it is only necessary after the printing to

throw the plate into cold water, which develops and fixes. Mixtures of gum and bichromate, or gelatine and bichromate, need to be printed as soon as possible after drying, and to be protected more carefully from light than ordinary positive paper, as they are more sensitive. They also print more rapidly.

THE STEREOSCOPE.

THE stereoscope is comparatively a new invention, dating back only some twenty years. A form of the instrument in which *mirrors* were used to produce the effect was devised by Wheatstone in 1838; but the stereoscope, as we are familiar with it, was invented by Sir David Brewster in 1849. The former is known as the *reflecting* stereoscope; and the latter, in which *lenses* take the place of Wheatstone's mirrors, is called the *refracting* or *lenticular* stereoscope.

We had taken it for granted that the philosophy of the stereoscope was generally understood, but a little inquiry among our friends—including some of the better informed among them—has satisfied us that this is not the case. Even some of our leading teachers know nothing about it. A few months ago, at a little gathering of gentlemen interested in physical science, the fact that the pictures formed in the two eyes are different was referred to by one of the company, together with the related fact that the two pictures of the stereograph differ in the very same way, when, much to the surprise of most persons present, both facts were squarely denied by a gentleman who had for many years been at the head of one of our best high schools, and for the greater part of the time a teacher of mathematics and physics. It was only after a long and rather lively discussion that he became convinced of his error. He had never before understood either the stereoscope, or the eye, so far as its action is like that of the stereoscope.

Why do we have two eyes, when we see but one image with them, and apparently one eye would serve to form that image? There may be other reasons for the arrangement, but the most obvious one is *that we may see objects solid*, or in relief, and not

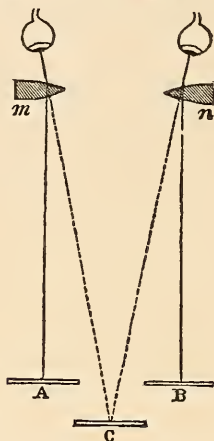
merely as pictures on a plane surface. It was not until Wheatstone made his experiments on binocular vision in 1838 that this matter came to be thoroughly understood even by scientific men. He showed that the pictures in the two eyes are not exactly alike, and that it is the blending of these two pictures which causes objects to appear solid.

A moment's reflection ought to satisfy the reader that the pictures in the two eyes cannot be exactly alike, since the eyes are not in precisely the same position with reference to the object. But if he "don't see it," a simple experiment will enable him to see it. Let him hold a book, or any other solid object, about a foot from the eyes, and look at it first with one eye and then with the other. He will find that with the right eye he sees a little more of the right side of the object, and with the left eye a little more of the left side. The same will be true, of course, whatever may be the distance of the object from the eye, though when the distance exceeds 250 or 300 feet the difference is too small to be appreciable, and objects beyond that distance are *not* really *seen* to be solid.

Now the stereoscope is simply a contrivance for blending two pictures which differ from each other as the images in the two eyes differ. When thus blended the pictures produce the same impression of solidity as the object itself does when viewed with both eyes. Hence the name of the instrument, which is from two Greek words, meaning *to see solid*.

How is this blending of the pictures effected? If we look at an object through the centre of a convex lens, it will be seen exactly in front of the eye; if we move the lens a little to the left, the object will appear to move to the right; if we move the lens to the right, the object appears to move to the left. If now we cut the lens into two semicircular pieces, and place them side by side in a reversed position—that is, so that their thin or curved edges are adjacent, and their thick or straight edges are turned outward and parallel—the right eye will then look through the left half of the lens, and the left eye through the right half. If two pictures, like those of a stereograph, be

placed at the proper distance behind the lens as thus divided and arranged, they will be seen, not in their actual places, but in a position midway between the two. The figure illustrates this: *m* and *n* are the halves of the lens; and A and B are the two pictures, which appear as one at C.



How are the two pictures obtained? They are photographs of the object taken from slightly different points of view. Theoretically, they should be taken from points separated by a distance equal to that between the two eyes, or about two and a half inches; and for all objects within short distances, this is just what is done. For objects farther off—as large buildings, or landscapes of considerable extent—photographers usually take the pictures from points farther apart; the distance ranging from a few feet up to a quarter of a mile. In this way, objects which are so distant that they are not really seen as solid with the unaided eye, are brought out into clear relief by the stereoscope. Even the moon may be made to show her rotundity of figure by means of this instrument. Although she always turns the same side towards the earth, she swings a little at times, so that we get a view of a little more of her eastern or western side; and by taking advantage of this swinging (or *libration*, as the astronomers call it), photographs can be taken corresponding to the images in the two eyes—or rather, as Sir John Herschel has remarked, “it is as though the moon were seen with the eyes of a giant, placed thousands of miles apart.”

It has been suggested that similar photographs might be taken of the planet Saturn, with his system of rings. In this case, an interval of two or three years would be allowed between the times of taking the pictures, in order that the position of the rings might change enough to answer the purpose.

A curious effect may be produced by tinting the pictures of a stereograph with different transparent colors. If, for example, one be colored blue and the other red, their blended image will appear purple; if blue and yellow be used, it will appear green; and so on. The colors are mixed *in the eye*, and the resultant color is precisely the same as if they had been mixed by a painter and applied to the picture outside the eye. We have seen French stereographs of statuary which illustrate this principle. One of the pictures is colored green and the other yellow, and the mixture of the two in the eye produces the exact tint of bronze.

Quite an amusing story is told of the first introduction of the stereoscope to the *savants* of France. The Abbé Moigno took the instrument to Arago, and tried to interest him in it; but Arago unluckily had a defect of vision which made him see double, so that, on looking into the stereoscope, he saw only a medley of four pictures. The Abbé then went to Savart, but he was quite as incapable of appreciating the thing, for he had but one eye. Becquerel was next visited, but he was nearly blind, and consequently cared little for the new optical toy. The Abbé, not discouraged, called next upon Pouillet, of the Conservatoire des Arts et Métiers. He was a good deal interested in the description of the apparatus, but unfortunately he squinted, and therefore could see nothing in it but a blurred mixture of images. Lastly Biot was tried, but Biot was an earnest advocate of the corpuscular theory of light, and until he could be assured that the new contrivance did not contradict that theory, he *would* not see anything in it. Under the circumstances, the wonder is that the stereoscope ever got fairly into France; but if you have any doubts on that point, a short walk under the arcades of the Rue de Rivoli, in Paris, will soon settle them. We question whether you will see

anywhere else on earth more stereoscopes and stereographs than are displayed in the windows of the picture-shops of that noted thoroughfare.—*Journal of Chemistry.*

ADDRESS

OF THE

National Photographic Association

TO

**The Society for the Advancement of
Photography in Berlin.***

DEAR SIR: As the Executive Committee of the *National Photographic Association of the United States*, we take pleasure in acknowledging the receipt of your very kind Address of May 18th, and assure you that your good words and wishes are heartily reciprocated.

We are all engaged in erecting and perfecting one grand and great monument to our beloved art, and it behooves us to work together in harmony and good will.

Although your Address arrived too late to be read to the assemblage of photographers at Cleveland, it has been published to them all, and it is very gratifying to us as a token from your Society of your appreciation of American photography.

The work of several of the eminent members of your Society has been the admiration of many here for several years, and "Berlin photographs" is almost a by-word among us. They have been purchased, and studied and imitated, a fact which may be easily guessed on examining the work of some of our best artists. We are free to confess this, because we believe that no photographer compromises his pride or his skill in accepting or following all that will tend to improve his work.

We are glad to be assured by you, that our influence upon you has been similar, and we hope that the visit to us of your beloved and worthy President, Dr. Vogel, will tend to render our intimacy in future, greater and warmer.

Dr. Vogel was greeted as your representative, wherever he visited among us, in the

kindest manner, and our personal regret is that he is obliged to return to you at all, and that he cannot remain with us permanently. He carries to you our very highest esteem, and we trust that what he will be able to tell you of American photography will not lower us in your estimation.

We solicit from you an interchange of ideas, and offer you such as we have in return. At least once a year, at our Annual Exhibitions, we hope you will remember to permit us to see examples of your progress and of your most perfect work.

As we hope that the dark war-cloud which now hovers over your great and good nation may soon give way to the penetrating rays of the sun of peace, so do we hope that prosperity, progress and perfection may be attained by you, as a reward for your efforts in the art and science which we all so much love, and which you so ably represent.

Assuring you of our warmest greetings, we are very truly and fraternally yours,

W. IRVING ADAMS, Chairman.

V. M. WILCOX, E. L. ALLEN,
W. J. BAKER, JNO. CARBUTT,
Ex. Com. Nat. Phot. Ass.

EDWARD L. WILSON, Secretary.

A. BOGARDUS, President.

TO THEO. PRÜMM, Esq.,
Vice-President of the S. F. T. A. of P.,
and others.

51 Unter den Linden, Berlin, Prussia.

A Curious and Interesting Fact.

A FEW weeks ago, Mr. Robert Benecke, at our request, made trial of a pair of Steinheil Aplanatic Lenses for stereoscopic work. In due season a letter came from him making the surprising statement that the chemical and visual focus of the lenses did not coincide. We were somewhat mystified, because we had tried a great number of Steinheil lenses of all sizes, and found them without fault in the direction named. We wrote Mr. Benecke, that there must be some mistake about it, or that he had got hold of an unfinished pair of lenses; which we could hardly credit either. We asked that he try another pair before he concluded that the

* For Address of German Society, see our August No.—ED.

Steinheils all were liable to the objection he named. He accordingly ordered others to try, but before they could reach him, the following letter was received by us. It establishes a very curious and interesting fact, namely, that when we wish to make a reversed negative, as required by some of the carbon processes, allowance must be made in setting the focus, for the thickness of the glass, an item which, in such cases, it will be well to remember. Mr. Benecke sends us an instantaneous stereograph of the steamer R. E. Lee, the victor in the late race on the Mississippi River, made with the No. 1 Steinheil lenses, and the view is excellent. He writes:

"To save you unnecessary trouble, and to do justice to Mr. Steinheil, whom I have wronged unintentionally, I write to inform you that I was so fortunate as to find out what was the matter with those two Steinheils. In order to be sure about the focus, I took a good, straight plate, and where the collodion would have come I stuck a piece of ground glass. This plate I put into the *plateholder* and took focus on. The rays of light had to pass through one thickness of glass (the ground-glass) before they were intercepted by the ground side of the glass. This, I thought, would not make any difference, but that was the whole matter. I used then an ordinary piece of ground glass, put it in the plateholder and took the focus thereon. I found now that I had to shift the back part of the box further in toward the lenses, in fact right to the mark I had made where I had to have it in order to get a sharp picture. I tried another picture, and everything was all right. To convince me further, I took my half size box, set the focus on a sign opposite my window, then took the ground glass out and put another (transparent) piece of glass in front of it. The result was the same; I had to push in now in order to see things sharp, and the more so the thicker the glass that I used.

"So, I learned that a piece of plate glass interposed between the ground glass and lens, even when in close contact, will make a difference in the focus. Dr. Vogel spoke of this, but thought, like I did, that the central rays could not be deflected, those

rays, I mean, that fall square upon the glass. And there we made the mistake, for in fact there is only one central ray, and this one is overpowered by innumerable lateral rays. A lesson we can learn from this is, that allowance must be made if we want to take negatives reversed, that is, the glass side turned toward the lens and the film on the back. For in this instance, a person would be likely to move the ground glass just so far back as the thickness of the negative plate amounts to, and then he would miss it. The better plan would be to reverse the ground glass in the frame and use the negative glass as thick as the ground glass is.

"Well, I am glad that the Steinheils are all right. They work very quick for outdoor work. Dr. Vogel will tell you that we had full time by uncovering the tubes and putting the cloth back as quick as possible."

Photography from a Business Point of View.

I HAVE often asked myself, Why does not so and so succeed in his business? He has capacity, industry, fair business talent, good location, etc. My answer has not always been satisfactory to myself, but may I not present a few reasons which have, especially of late, forced themselves upon me, as probably the true, whilst at the same time they would be thought the last ones, that swamp, so to speak, many a one's profits and prospects.

First. I hold that we endeavor to do entirely too much, and too varied styles of work. A year ago we found ourselves making (or trying to make), ordinary cartes, Berlin cartes, Imperial cartes, 4-4, 8-4, 17 x 20, India-inks, water colors, crayons, life-size pastels, life-size oils, to crown all, porcelains. Now, I would in all seriousness ask, is it possible for any single establishment to make *all* of the above in a manner approaching perfection? And yet do not nearly all attempt it?

The result may be summed up thus: you have to keep a large force of employes to do a moderate amount of business. You are always occupied doing very little; you

may well say, "We are compelled to do or attempt everything." Eighteen years of experience has satisfactorily and thoroughly demonstrated to me the fallacy of the above. No establishment of any standing or reputation but what can guide the taste and inclination of its customers, to any style of their productions that has true merit in itself to recommend it; and the surprise of many would be great, how much more work they would produce, at less risk, expense, labor, and worry, and more profit, if they would cut half the variety of styles, and confine themselves to fewer; and how much better work. Of course, every one must be the judge of what their peculiar surroundings call for, what to cut, and what to encourage.

May I, without being thought too egotistical, illustrate it in our case, for are we all not apt to judge from our own experiences? A year ago having come to the above conclusions, we concluded to stop imperial cartes; reason, they were not remunerative enough, and interfered too much with the 4-4, which were;—result, after first few weeks, we rarely had any applications for them (having removed specimens), and sale of 4-4 and small cartes greatly augmented. Porcelains we found were not sufficiently in demand to justify a separate workman, hence we cut them. There has not been a *single instance* where parties desiring them did not take some other style of picture instead. The amount of annoyance, trouble, and expense, thus gotten rid of was great; moreover, all other styles of work have felt the benefiting influence of getting *more attention* than before, and *show it*. We seriously contemplate further prunings. You may as well expect one artist to work in ink, water color, pastel, and oil, with equal facility, as to expect a photographer to jump from one style to another with good results. Another good effect which would follow, forces itself upon me: if there was less of everybody's trying to do everything, and different establishments had their specialties, the ruinous competition in prices would not exist, there not being that motive to do the *same thing* cheaper than our neighbor.

I give the above crude ideas to your readers, and may at some future time (if

agreeable to you), more fully enlarge upon them.
D. BENDANN.

BALTIMORE, August 20th, 1870.

BACK NUMBERS WANTED.

THERE are some of our subscribers who do not bind their numbers, and if there are any such who can spare those for January, February, and June, 1869, we should be very glad to pay a premium for them, namely, 75 cents per copy. We are also in need of Mosaics for 1868; for which we will pay 50 cents per copy, or exchange for the *Year Book*.

We constantly have applications for full volumes and sets, and these are needed to accommodate the parties who send them.

If any responses are made to this, please write us when the copies are sent.

PENNSYLVANIA PHOTOGRAPHIC ASSOCIATION.

THE first stated meeting of the season was held at No. 822 Arch Street, on Thursday evening, September 8th, the President, William H. Rhoads, Esq., in the chair. Minutes of the last meeting were read and approved.

The Committee on Dr. Vogel, reported that their duties were fulfilled, and the committee was discharged. The Committee on By-Laws, Messrs. Shoemaker, Trask, Phillips, Seeler, and Evans, handed in their report, which included a series of by-laws for the government of the Association. Their report was accepted, and afterwards the by-laws were again read, amended, and adopted in sections.

A negative was shown with a very peculiar effect. The film seemed to be eaten away under the varnish, and a yellowish granulated substance seemed to have deposited over parts of the plate. It was examined with a great deal of interest, and considerable discussion followed. Some averred that the effect was caused by using pyrogallie acid and iron developer. Mr. Tresize stated that once upon a time, suddenly all his negatives assumed that ap-

pearance, the moment the varnish was applied. No lack of washing could have caused it, for in that he was careful. After examining everything he concluded it was the cotton, and as soon as he used a different sample the trouble vanished.

Mr. Shoemaker said it was caused by imperfect washing after fixing with hypo, and he could prove it by several solar negatives he had, which were not varnished. For this reason he always recommends cyanide for fixing solar negatives. More careful washing would stop the annoyance. The general opinion of those present was, that Mr. Shoemaker was correct. He offered to take the negative, make a positive, and enlarge it, in the lantern, at the next meeting. At Mr. Cremer's suggestion it was resolved that the members furnish their cartes to be hung in the room of meeting.

Mr. Wilson stated that the life of the Society would now depend upon the individual effort and earnestness of each member, and he would therefore suggest that when defects, failures, and excellencies were found, that they be brought to the meetings and freely shown; also that the chair appoint at each meeting, some one member to read a paper on some practical subject at the next meeting. Mr. William Bell was accordingly appointed to read the first paper, at the next meeting, Mr. Wilson's suggestion having been made a motion and carried.

Mr. Trask suggested that the members bring samples of their work at each meeting.

Dr. Vogel's letters from America to his own journal in Berlin were read by Mr. Wilson.

Mr. Shoemaker said that if the members would bring such negatives as presented any *peculiar* defects, he would make transparencies from them for the lantern, and exhibit them at the next meeting.

Mr. Tresize recounted some experience he had seen with prints turning yellow. He visited a gallery in Illinois, and the complaint was made to him that for days, nothing but yellow prints had rewarded the efforts of the poor photographer. The water-supply was obtained through iron pipes, and

these were at once suspected, so the water was carried from the hydrant below, to the tank, in buckets. Still the prints turned yellow. The buckets were then inquired for, and examined. Upon cross-questioning it was found that one of them had been used for carrying waste fixing solution down stairs, and although it was afterwards well washed, still enough of the hypo remained to damage any amount of prints.

Some specimens of the new "Hot Cast Porcelain" glass were shown, which for regularity of *thinness*, straightness, and color, were unequalled.

Some specimens were also shown of both a cream tint and a greenish tint, which must be very effective in contrast with the rich, warm tones attainable on porcelain glass.

There were present at this meeting gentlemen from New Jersey, Delaware, and Illinois, and the Society gladly admits to membership all who desire to join it, although its principal object is to fraternize the Pennsylvania photographers, and those in adjacent states. The meetings hereafter will be the second Monday in each month.

NEW ENGLAND PHOTOGRAPHIC SOCIETY.

ON account of sickness and other things over which I had no control, I have not been able before to send you any report of the Boston Photographic Association. If it is not too late, I will send you a report of our July meeting, also special meeting to welcome Dr. Vogel.

July 5th, we met as usual at Black's studio, No. 172 Washington Street. The President being absent, the meeting was called to order by Mr. Southworth.

Records read and approved.

Mr. Southworth spoke of the National Exhibition at Cleveland as being a success, and gave the names of many present. For one, he was glad he went; said that at present he was not making pictures of faces, but felt as much interested in photography as ever; wanted photographers to improve as much in one year as he had in ten, and saw no reason why they should not, because

of the better advantages, and he thought the common class had improved very much in the last year, judging from pictures he saw on exhibition at Cleveland; but he was of the opinion that the best pictures in the country now, would always be the best, or, at least for a long time.

He saw the Albert and the Woodbury processes, and thought that each had their beauties and advantages, but they would not take the place of silver printing. In regard to prices, he thought that should be a secondary consideration. Every photographer should ask himself, What shall I do for art? rather than, What shall I do to get business?

The National Association last year numbered 200 members; this year it had increased to over 600. He hoped next year to see a larger increase, as every photographer must be affected by it. He, for one, had come home with enlarged ideas, besides meeting pleasant company; spoke of the Rembrandt effect as being the prevailing style of picture, and proposed at our next meeting to read a paper upon *Light and Shade*; stated that Dr. Vogel might come to Boston, and if so, hoped there might be a meeting called to give him a greeting.

It was moved that when we adjourn it be to the first Tuesday in October. On motion carried.

Also voted, that should Dr. Vogel come to Boston, the President call a special meeting of the Association to welcome him.

A special meeting was called July 21st, President Allen in the chair, who introduced Dr. Vogel to the members as one whom they all knew, although many had never seen him.

Dr. Vogel made the following remarks:

"About eight weeks ago I arrived in your hospitable country; I have crossed America from the Delaware to Lake Erie and Lake Michigan, and from the Mississippi to the St. Lawrence River. At every stopping-place I have been most kindly received by my American fellows, and my heart is filled with thankfulness to the photographers of the United States—filled with some grand impressions of your land and your people. Yes, gentlemen! for the

remembrance of this journey will ever be the most beautiful of my life; it will now encourage me to work further and further with all my power, for the progress of photography.

"Soon I go back to Germany in a grave time; clouds of war, of a heavy war, arise on the horizon, and in the tumult of arms, under the thunder of guns, it will not be possible to work for a peaceful art,—but I am hopeful. I believe we Germans have the sympathies of America, the sympathies of a free land, and the freest people in the world.

"I believe we Germans merit their sympathies. Professor Towler says: 'Germany is the land of science and art.'

"I was proud to see in the Far West of America works of our German painters, Kaulbach, Meyerheim, and Lessing; and our German sculptors, Rand, Schadow, and Kist, acknowledged by your countrymen. I was proud to observe how you appreciate German photography, and to hear in every town of the United States German songs, and the works of Mozart and Beethoven, and many others; you have acknowledged our great investigator Humboldt, and our countryman Bunsen, the discoverer of the spectral analysis.

"We have many imperfect things in Germany, but I hope Germany will ever be the centre for the progress of art and science, and that it will be appreciated throughout the world.

"But what we want practised in Germany is the free development. Very often our best ideas are lost and fruitless in Germany. You have what we want. I admire in America, your readiness displayed always in introducing new ideas to practice, and making them useful to humanity. I admire your activity and energy in all points of workmanship, and I believe that to be the cause of the rapid development of your land. I hope for a stronger alliance between German profundity and American sharpness and activity, and American liberty. Such an alliance would be an irresistible power, and a guarantee for the future of civilization."

Dr. Vogel's remarks were responded to by Professor Taccella, Mr. Southworth, and

others, and we had a very good time generally. A vote of thanks was passed to Dr. Vogel in consideration of his coming to this country. Adjourned. E. F. SMITH,
Secretary.

ST. LOUIS PHOTOGRAPHIC SOCIETY.

WE are glad to see that one of the broad principles of the National Photographic Association—namely, to give or offer to give, no prizes for work exhibited at its annual exhibitions, but to encourage *all* to exhibit without fear of favoritism being shown,—has had its effects upon a local society, to wit:

"The Board of Directors having granted the request of the members of the St. Louis Photographic Society, offer no premiums for photographs this year."

ROOMS ST. LOUIS PHOTOGRAPHIC SOCIETY,
S.E. COR. 4TH AND MARKET STS.,

May 2d, 1870.

G. O. KALB,

Sec'y St. Louis Agricultural and Mechanical
Association.

DEAR SIR: At the last monthly meeting of our Society, we, the undersigned members, resolved as follows:

Whereas, It is our wish and desire that no premiums be offered at the Tenth Annual Fair of the St. Louis Agricultural and Mechanical Association for any style of photographs or pictures, taken by the aid of the camera obscura, as last year; and be it further

Resolved, If no premiums are offered as aforesaid, the interest of the members of this Society in the Annual Exhibition at the St. Louis Fair will not be lessened. We will exhibit our work and contribute all we can to the interest of your Exhibition.

Believing this move to be for the interest of our Society, and photographers generally, we respectfully ask that our request be granted by the Board of Directors of the St. Louis Agricultural and Mechanical Association, and the Secretary is hereby instructed to forward a copy of these resolutions to the officers of the St. Louis Fair Grounds.

A. J. Fox, President, 406 Olive Street.

Robert Benecke, Secretary, S.E. cor. Fourth and Market Streets. J. H. Fitzgibbon, Treasurer, 116 N. Fourth Street. John A. Scholten, 301 and 303 Olive, cor. 5th, entrance 509 Olive St. Cramer, Gross & Co., 1200 and 1204 South Fifth Street. Boehl & Koenig, No. 104 North Fourth Street. M. Saettele, No. 1406 Carondelet Avenue. Charles Hammersly, of Brecht & Co., 906 North Sixth Street. A. W. Wood, S.W. cor. Fourth and Market Streets. R. F. Adams, 215 N. Fourth Street. G. H. McConnell, S.E. cor. of Fifth and Locust Streets.

We are sure that harmony and peace will be advanced by such commendable action.

THE PHOTO-CRAYON PROCESS.

WE have received a copy of the specifications of Mr. Oliver Sarony's patent for making photo-crayons, from which we make the following extracts:

... "As it is important to the result that the shadows should be clear, I by preference use old collodion, containing bromine and iodine, sensitizing the plate in a bath thirty-five to forty grains strong, rendered slightly acid, the time being short, as will be well understood by an experienced practical photographic operator. To develop, I prefer to use pyrogallie acid, one grain, citric acid one and a half grains, with sufficient spirits of wine (alcohol) to cause it to run freely over the plate, fixing the plate with hyposulphite of soda. I will here observe, that should the negative appear hard, extra exposure and a plentiful use of developer, will tone and soften the picture."

Our readers are aware that the American agents, Messrs. Alden and Lambert Brothers, teach this process to all who buy the Sarony crayonized sheets.

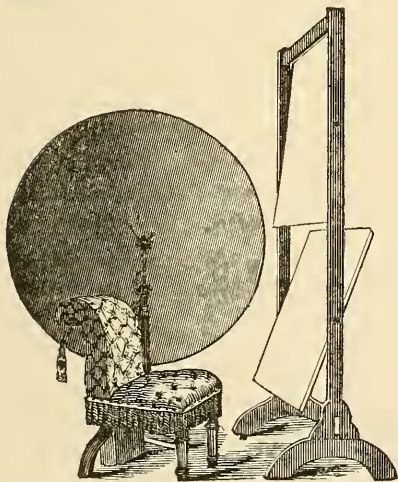
It is worth buying the sheets, we are told, to get the process for porcelain pictures only, for it is equally well adapted to that class of work. Large and small pictures may be made from one negative, with equal facility and of uniform quality. The *process* will not make the pictures, however. This should not be expected, but with judgment and care, very beautiful results are obtained by it.

THE NIEPCE FUND.

THE following contributions have been received for the fund for the widow of M. Niepce de St. Victor: J. Paul Martin, .25; W. W. Backus, \$6; H. B. Hyllier, \$1; David Duncan, \$1; F. M. Spencer, .60; Scovill Manufacturing Company, \$50; "A Friend," \$25; G. B. McLaughlin, \$1; J. F. Ryder, \$5—\$89.85 in all. We ought to raise \$500 for this charitable object from the grateful photographers of America.

Motes's Circular Background.

WE are glad to see that photographers are awakening to the fact, that the background is a very important part of the picture, and that it has a great deal to do with the pictorial effect achieved. Whatever, therefore, tends to improvement in this respect we are glad to bring to the notice of our readers, and we have now to describe a very excellent idea obtained from Mr. C. W. Motes, Athens, Georgia, and a member of the National Photographic Association; one of the broad principles of which he carries out by making known to others freely such good things as he finds useful in his practice.



As will be seen by the figure, it consists of a muslin disk, mounted on framework, which revolves on an axis affixed to an ordinary head-rest. The diameter is $4\frac{1}{2}$ feet. Unbleached muslin is used, painted with a

mixture of lampblack, yellow ochre, and Spanish whiting, in proportions to suit the taste. Any blacksmith can do the necessary iron work, and the whole cost, including iron work, is less than \$5, provided all the labor, except the iron work, is done by yourself.

It will be seen by the cut, that the background is light and dark in parts, and the light or dark side may be used by revolving it, or, if a uniform tint is desired, keep it revolving during exposure. Our drawing shows the background, reflectors, chair, and head-rest, all ready to make a Rembrandt picture. The figure of the background is simply crosspieces with a rim around.

CENTRAL OHIO PHOTOGRAPHIC SOCIETY.

WE take pleasure in announcing the organization of another Local Society, with Mr. F. Thorp, Bucyrus, O., as the President. We extract the following from their circular:

"DEAR SIR: Believing that our interests will be subserved by co-operative effort in advancing the standard of our art, and that individual improvement will be greatly enhanced by associated effort, I present for your consideration a plan for the formation of the Central Ohio Photographic Society.

"1st. No fees or dues will be required.

"2d. The only obligation required of each member is a pledge to furnish twice a year as many prints from one of his best negatives as there are members of the Association, together with his formula written in brief. These formulas will then be arranged in form, and printed, each member receiving a copy with a package containing a picture from each of the other members, so that by reference to the printed formula you can see what each artist uses, and have the result before you."

All who wish can join by applying to Mr. Thorp before October 10th. After that a vote of the Society must be taken on all applications. We wish the new Society much success.

PHOTOGRAPHIC DIALOGUES.

(SEQUEL TO ONE HUNDRED DAYS IN A FOG,
ETC., CONTINUED.)

BY ELBERT ANDERSON,

Operator at W. Kurtz's Gallery, 872 Broadway, N. Y.

Fourth Evening.

A. Whilst speaking of iodizing the negative bath, at our last meeting, you will remember I said, that, if a solution of any iodide (such as iodide of ammonium, cadmium, potassium, etc. in water), be poured into a solution of nitrate of silver, a dense yellowish precipitate is thrown down, which is *iodide of silver*. The iodide of silver thus formed, is done by what is called in chemistry *double decomposition*. The *iodide*, formerly combined with the *ammonium*, leaves it and combines with the *silver* whilst the *oxygen* and *nitric acid* leave the *silver* and combine with the *ammonium* forming *nitrate of ammonia*.

M. When a plate is coated, then, the iodides and bromides, uniting with the silver in the bath, form iodide and bromide of silver; but what becomes of nitrate formed?

A. When the iodide and bromide of silver is formed, it is restrained from getting into the bath by the nature of the collodion which holds it fast to the glass; a portion of the *nitrates* thus formed remains in the bath, and may be in it in considerable quantity without materially affecting the working properties of the bath.

M. There are methods, however, I presume whereby this nitrate can be entirely removed, are there not, fusing the bath, for instance?

A. Assuredly all the nitrate can be easily removed, *not* by fusing, however. We will come to all that in good time. I remember after I had been coating some thousands of plates, as assistant in the dark-room, the operator happened to mention one day in a casual manner, "Anderson, you don't know anything more about coating a plate, than a double-headed jackass." Though forcible, this was perhaps inclegant, and upon the whole not encouraging, though the precise nature of the bicephalous animal was not apparent, the Siamese twins being the nearest that— Well, that's neither here nor there. I mention this little incident as a gentle

hint to *you*. To flow a plate properly can only be done by very great practice.

M. Ah bah! I coated plates after one or two trials as easily as sliding down a cellar-door.

A. I will not dispute you; you no doubt coat your plates as hundreds of others do, that I have seen do it. If it suit you, and them, all right; it is *your* business, not mine, but this style of coating will never suit *me*. I repeat, to coat a plate properly, *i. e.*, without comet lines, cloud waves, and evenly, without the slightest imperfection, requires care and dexterity. The directions by the "great ones," "pouring a pool in the centre of the plate and tilting it until it covers all the plate, then rocking it, to make the lines coalesce, etc.," are followed by many, and no doubt they are perfectly correct. I do not do it, however; I like my own way best. Like most tricks of sleight-of-hand, this is exceedingly difficult to explain in writing. As the play-bills have it, "*it must be seen, to be fully appreciated.*" Hardwich says on page 415, 7th edition, "Apply the whole quantity of collodion first, and incline the plate afterwards; *but never tilt and pour at the same time*. Do not be economical as regards quantity, and if a little should flow away at the edges, it will be of no consequence." Very unfortunately for me, I cannot agree with this gentleman, as I differ from him in *every particular*. Consider the plate coated. In a few moments the ether in the film will have sufficiently evaporated, and the plate may be touched slightly with the ball of the third finger, at that corner whence the collodion was poured off. The finger should leave its impression, without otherwise affecting the film, which latter is now said to be *set*. Now I quote: "When the collodion has become a little tacky, the plate is ready for immersion in the silver bath. Place it on the dip-rod and *let it down with a quick motion*, but not so rapid as to cause a splash."—*Devine's Practice*, page 27.

"When the plate is ready, rest it upon the glass dipper, collodion side uppermost" [I am very glad indeed he mentions this, as it is so exceedingly likely and perfectly natural for any one to coat a plate and turn it buttered side down, to lower it in the

bath] "and lower it in the solution *by a slow and steady movement.*" (*Hardwich*, p. 417, 7th edition.)

M. No, but which is right?

A. You pays your money and takes your choice, my little man.

M. You can at least give me *your* opinion.

A. Follow *Hardwich's* advice. Lower your plate very slowly and steadily, and the moment it is entirely submerged, swing the dip-rod very gently from right to left, and up and down two or three times.

M. Is your dip-rod too short, that you put this peg in the handle?

A. I cut the rod off expressly that the plate shall not reach the bottom of the bath by two or three inches, consequently all fragments of collodion film and other particles of matter floating in the bath, instead of lodging on the plate, sink below it, and greater cleanliness is secured. You will now understand that the iodides and bromides in the collodion, coming in contact with the nitrate of silver in the bath, form (as previously stated) iodide and bromide of silver in and on the collodion film.

M. The plate must remain in the bath until it is perfectly smooth and shows no greasy lines, I know; but what makes those lines?

A. Although water and alcohol mix perfectly together, such is not the case with ether. The water in the bath repels the ether in the film, and until the ether is washed away, it will run down the plate precisely as if the plate were dipped in oil or grease.

M. What is the object of moving the plate about in the bath?

A. It greatly facilitates this very washing off of the ether, and consequently expedites the "sensitizing" of the plate. You will find it an excellent plan after the plate has been in the bath a few moments, not only to move it about up and down and sideways, but to raise it entirely out of the solution eight or ten times; it will sensitize in just one-half the time. There is no harm in leaving it quiet in the bath if you are otherwise engaged (in posing, focussing, etc.), only it takes rather longer, for the reason already given. Now let us make an experiment. Take one ounce of protosulphate of

iron, C. P. (crystals of green vitriol) and crush it up in a porcelain mortar to powder, adding water at the same time, which dissolves the iron gradually; pour off this water in a bottle, and add more, until the whole of the iron is dissolved. Finally add water until the bulk is equal to 16 to 20 ounces of water to the 1 ounce of iron. When thoroughly mixed, filter it through filtering-paper.

M. This is the developer, I suppose?

A. That is its photographic name, but used as it is in photographic operations, it is called in chemistry a *reducer*.

M. Why?

A. You will see presently. Take about a drachm of your silver solution in a saucer, and pour into this a drachm of the iron solution; observe the effect.

M. It has turned to a leaden color, somewhat like indelible ink, and has a silvered surface.

A. The solution of iron being mixed with the silver solution causes the silver to precipitate, in other words, *reduces* the silver to the metallic state.

M. What is the cause of this precipitation?

A. Ah! now listen to me. The term *molecular force*, is used to express certain manifestations of actions, or attraction. The principal ones being, attraction of *cohesion*, of *adhesion*, *capillary* attraction, and *affinity*. Now, although they essentially differ from each other, these forces all agree in one remarkable particular, to wit: their influence upon matter is exerted only at insensible distances.

M. What are these essential differences?

A. Cohesion, or cohesive attraction, is that force which holds together atoms of the *same kind* of matter. The effort required to break a substance is a measure of the strength of the cohesive force exerted by its particles, and when this attraction between its particles, is once *destroyed* (remember this word), it is generally impossible to restore it. Thus, that force which binds together all the parts to form a lump of sugar, is cohesion, and the atoms are said to cohere.

Adhesion, or adhesive attraction, is that force which causes *unlike* particles of matter to cling together, and when united, the

atoms are said to adhere. Thus when two pieces of wood are glued together, they are held by the adhesive force between the particles of wood and the particles of glue.

Capillary attraction is that force which manifests itself between the *surfaces of solids* and liquids. You must have frequently noticed in pouring water gradually from a cup or pitcher, how the liquid is disposed to cling to, and run down the sides of the vessel.

M. Oh yes! and like your coffee when it is sucked up (like with a sponge) by a lump of sugar.

A. You are right.

M. Yes, but why is it called caterpillar attraction?

A. *Capillary* attraction; from the Latin *capillus* (hair), because it was first observed in small glass tubes, the bore of which was not thicker than a hair.

Affinity is that attraction which unites atoms of different substances into compounds possessing new and distinct properties.

M. I don't quite understand you.

A. *Oxygen*, a gas, supporting combustion, and hydrogen, an inflammable gas, unite and form water (oxide of hydrogen), a liquid with the very opposite properties of the gases. Now, Mr. Marshall, I hope you will excuse this diversion from the main subject; but by first understanding this, I can far better explain what is to follow.

M. Thy words drop upon mine ears like unto music.

A. What kind! Japanese?

M. No, don't let me interrupt you.

A. When a solid (a lump of sugar for instance), dissolves in a liquid (say water), the cohesion between its particles is *not destroyed*, mind you, it is merely overcome by the *superior* force of adhesion between the particles of water and those of the sugar. For sugar, whether in a lump in the hand, or dissolved in water, is still sugar. This is an example of plain solution, and in all cases of *simple solution*, the properties of both, the solid and the liquid, are retained. Now, there exists a clear distinction between a simple solution and a *chemical combination*, though the latter is often called a solution.

M. Can you give me an example?

A. When metallic silver is dissolved in nitric acid, the nitric acid, as previously stated, is decomposed, one portion oxidizing the silver, whilst the second portion combines with this oxide, and thus produces the nitrate of the oxide of silver.

Here then is a case of chemical combination, as in the nitrate thus formed neither the properties of metallic silver, nor of nitric acid, can be discerned. Do you understand me?

M. Of course.

A. Again, when gum camphor is dissolved in alcohol, is this a case of chemical combination?

M. No, certainly not!

A. Why?

M. Because both the *smell* of the camphor and the taste and other properties of the alcohol remain.

A. Good boy, go up head. Now another experiment. Into this wineglass I pour a little water (say three-fourths full), upon top of which I pour some spirits of camphor. Observe the result.

M. The camphor is all restored again; this is then a case of precipitation.

A. Exactly. Now, Mr. Marshall, what made the camphor precipitate?

M. Ah! here she goes. Because the adhesion between the water and the alcohol, is greater than the adhesion between the camphor and the alcohol, so that the alcohol deserted its first love and espoused the cause of the water; in fact became a member of the temperance society.

A. Now when the solution of protosulphate of iron is poured into the silver solution, the attraction between the iron and the water is stronger than that between the silver and the water, consequently the silver is set free and precipitated, but as the precipitate is *metallic* silver, and not nitrate, it is said to be *reduced*.

Let us now repeat the first experiment with a modification. Into the developer, as you call it, I will pour two ounces of acetic acid, to one ounce of iron, and eighteen ounces water; into a drachm of silver solution in the saucer, I pour the same quantity of developer; observe the effect.

M. It don't precipitate any more; now what's up?

A. Acids have a retarding effect in this reduction, and if added in too large a quantity, the reduction is almost entirely checked. See now the solution is turning black again, as in the first experiment.

Lime is somewhat soluble in water, but if carbonic acid gas is brought in contact with it whilst in solution, the two will unite together by the action of the chemical force of affinity, and overcome the adhesion which the water previously had for the lime. The above case fully illustrates a general law in chemistry, which may be stated as follows: *Two substances which when united form an insoluble compound, generally combine and produce the same compound when they meet in solution.*

This law is practically taken advantage of in chemical operations, for separating the different constituents of a compound from each other. Thus, if you desire to know if a certain perfectly clear spring water contains lime, you must introduce carbonic acid gas; this uniting immediately with the lime, forms an insoluble compound which is precipitated; and on the other hand, by reversing the operation and introducing a solution of lime, you may be able to detect the presence of carbonic acid gas.

M. Why does hot water dissolve substances more readily than cold water?

A. Anything which tends to weaken the force of cohesion in a solid, of course favors solution. And if a substance be reduced to powder, it dissolves more quickly, both, from the larger extent of surface which it exposes to the action of the liquid, and from the partial destruction of cohesion between the particles. Thus heat, by diminishing the force of cohesion, generally promotes solution.

M. Generally! don't it always?

A. No, some substances dissolve more freely in cold water than in warm,—lime, for instance. Iodide of silver dissolves more readily in a cold solution of silver, than in a warm one. Alum on the other hand dissolves so freely in hot water, that it will resume in part its solid form as the water cools; thus many substances are dissolved in boiling water first, to bring on crystallization.

APPRENTICESHIP.

THE subject of apprenticeship is one, we think, that American photographers must sooner or later consider. A committee was appointed at the Cleveland meeting of the N. P. A., to report upon the subject next year, and we append a note from one of them, hoping our readers, and especially the members, will think over it, and give us their ideas on the subject:

"I feel that a proper system of apprenticeship to our profession will work a great change in the practice of photography, and fairly revolutionize the whole business. A proper education to fit a student and practitioner for any profession is an *absolute necessity*, and I am one of (I hope) a great many who are not willing to allow that photography can be taken up and successfully practised without the proper instruction. The basis for that instruction is what I conceive to be the object and duty of our committee.

"I will do all I can with the others; in the meantime you could assist the committee materially by calling for opinions from the profession generally, through the columns of the *Photographer*. Where so many are interested, much can be gained by such an interchange of thought.

"And now allow me to find just a word or two of objection to the report of proceedings as published in the *Photographer*. On page 239, July number, my proposition was for a proper badge to be worn during the sessions of the Convention. I found it quite inconvenient not to know the members when I met them out of session.

"Pages 246 and 247: I am reported as having talked very foolishly; I called the attention of the Convention to the fact that it would be much more instructive to have a sample of difficulties under discussion present, *that we might talk understandingly*.

"Page 253: It was my voice that called for the condition of the department for which subscriptions had been taken up, and it was my motion (not Mr. Bardwell's) that prevailed to refer the subject to the Executive Committee, with power to act.

"I would be glad if these corrections can

bemade in the general report of proceedings, which I suppose you will issue after a while.

I. B. WEBSTER,
"Louisville, Ky."

ALBUMENIZING THE PLATE.

BY JEX BARDWELL.

IN looking over my *Photographic News*, I find that De Constant says, "It may be argued that the method of pouring the albumen solution upon wet plates in the same manner as collodion is applied, is an easier and a more simple manner of working, but it has ever failed me to albumenize a plate in this way, for as soon as the plate was taken from the water, and placed in a horizontal position, the water fled on all sides, leaving dry spaces all over the plate." I have often had the same trouble, but I found it was caused by a greasy surface, if it may be so called. I found the remedy in washing the plates, after they had been cleaned, in a solution of carbonate or bicarbonate of soda in water, and then to well flow the plates with clean water, and by immediately flowing the plate with the albumen solution, causing it to push the water before it, and flowing the second time, allowing the first to run down the sink, and then setting the plate up to dry in a warm room. They dry so quick, that by the time I have a dozen prepared, the first plate is in a condition to flow with collodion. I prefer to make my coffee plates in a room quite warm, and the plates are dried quite near the stove, so they dry very quick, and by so doing, I have no dust on them. I hear a great deal about plates blurring, but I use a heavy collodion, giving a creamy film, and am never troubled with that fault, that is with a coffee plate. I find they develop better, give softer negatives, and I think, require less exposure, provided you soak the plate for a little time before you commence to develop. Just wetting the plate and developing will tend to hardness. Soaking and washing will very naturally modify the result.

IMPERFECT washing after fixing and bad varnishes cause checkered negatives.

ILLUMINATED STOPS.

OUR readers have doubtless read with interest the remarks of M. Bazin and Mr. Lea, which have appeared in these pages, on the subject of the acceleration of exposure. All that tends to this great end is valuable, and we take pleasure in bringing forth another idea which comes from Mr. M. M. Griswold, of Lancaster, Ohio.

Early in July he began a series of experiments, with a view to accelerating the exposure of the negative, with what he calls an illuminated diaphragm, namely, a diaphragm made of photographic paper, rendered translucent by castor oil, which he substituted for the ordinary diaphragm. By experiment he found that red was the best color for the paper stop, and by using such a stop, he finds that he can diminish the exposure very materially, without increasing the size of the stop, or, without any detriment to the sharpness of the image.

He sends us two photographs of a group of accessories, curtains, etc.; one made with an extra 4-4 lens with the ordinary stop, and the other, with the illuminated stop. The same *size* stop was used in each case, and the same exposure given; but in the one made with the illuminated stop, there is decidedly less harsh contrast than in the other, with an equal amount of detail, and a tendency to greater softness, proving, that more time was needed with the ordinary stop to make the picture equal to the other.

Mr. Griswold is pursuing his experiments further, and will make known his results in due time. We should be glad to have others join him, for we look for very important results in this direction.

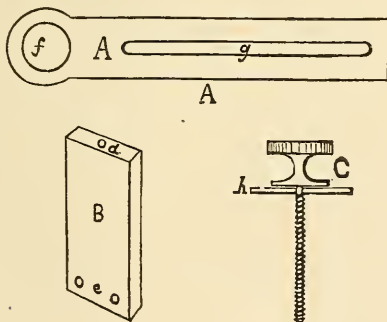
Retouching Solar Negatives.

I HAVE looked for some time for a way or means of retouching solar negatives, and have tried everything I could think of, but with no success.

I asked many of the solar men at Cleveland, but none knew or, at least, could give me any satisfaction. Now, if I state what I have found out, I want to see how many men will say, "*It is old.*" Let them say it—it is new to *me* and *good*. I remove

the biconvex lens from the rear combination of an old $\frac{1}{4}$ lens, and place it in a movable rack, over my retouching frame, so the lens will be about $2\frac{1}{2}$ inches above the negative; with a fine-pointed pencil I proceed to stop up the holes seen through the assistance of the magnifying glass. Use pencils of different hardness for different parts of the face. I stand up to do this, as I can arrange my frame in the window just high enough, so that I can relax every muscle and make very light touches. If retouching is of any advantage to cartes, it certainly is of twofold advantage to a solar negative; and the results of careful retouching must be seen to be appreciated.

I inclose my first experiment, not having any better print now on hand, but have improved some on this. The face had some pimples, some freckles, or rather stains of complexion, and it being rather thin, I was at a loss to know what to do with it at first, and you see how I got out; and this could be bettered by one experienced in retouching. In a word, I cannot retouch much any way. I use the lens for retouching cartes as well, and it is a great help both to the eyes and to the finished picture. The drawings will show how the lens is arranged.



A is a piece of board $\frac{1}{4}$ inch thick, with a hole at *f* to receive the lens. B is a block of wood as wide as the board, A, 1 inch thick, the length to be governed by the focal length of the lenses used. It may be screwed to any retouching frame through the holes at *e*. C is a set screw, which passes through the slot *g* in A into the hole *d* in

B, and *h* is a washer, the width of the board, A, but not absolutely necessary. With this the lens can be quickly adjusted to any part of the frame, and by tightening the set screw, it will stay where it is put. The whole thing is easily gotten up, and need only to be seen to be ever after used for retouching all kinds of negatives. I coat my solar negatives with weak gum-water, *if they should prove too tender to the touch of the pencil*, not often necessary.

It is necessary that the lens be large enough so the operator may see the work with both eyes at once, and then it will be a relief to the eyes rather than an injury. With all this I must say one word for the Cleveland Exhibition,—I believe I learned more than any one that was there, if it were possible.

C. A. WINSOR,

Hennepin, Ills.

NOTES IN AND OUT OF THE STUDIO.

BY G. WHARTON SIMPSON, M.A., F.S.A.

Photo-relief Prints and Photo-collographs—Practical Details of Photo-collography—Rye's Photo-mechanical Printing Process—Washed Sensitive Paper—Double Chloride of Gold and Potassium—Rembrandt Portraits.

Photo-relief Prints and Photo-collographs.

—The production of true photographic gradation or half tone, by means of mechanical printing, has been a problem, upon the solution of which much skilful experiment has been bestowed from the earliest days of photography. It had been given up by many thoughtful men as impossible, because, as they argued, all half-tone in mechanical printing must depend on the conventional gradation of hatching or stippling, which, as represented by the grain obtainable in photo-engraving, or photolithography, can be at best, but a compromise or makeshift for the true gradation of a continuous tint found in a photograph. During the last few years, just when many men of experience were, as I have said, disposed to give the matter up as an impossibility, two methods of photo-mechanical printing were discovered, which fulfilled the desired conditions, each of them in-

volving new and previously unrecognized principles, utterly unlike those involved in previous effort in the same direction. The two processes in question are the photo-relief process of Mr. Woodbury, and the photo-collographic processes which Tessie du Motay, Albert, and others, have worked out with more or less of success during the last few years.

By Mr. Woodbury's process absolute fac similes of silver prints are produced, so perfectly that experts may be easily deceived by them. They are in fact carbon prints, in which the different thicknesses of pigment and insoluble gelatine which form the image are produced by pressure, instead of by the action of light. The finished result is absolutely the same in each case. The Woodbury print is not a substitute for a carbon print; it is a carbon print. The photo-collograph most closely resembles a lithograph. In printing it is produced on the same principle, namely the repulsion of a fatty ink by every part of a surface which has absorbed water, and the facility of rendering that surface absorbent of water in every part but that containing the image. But there is this noteworthy difference between lithography and photo-collography, the lithographic stone absorbs water in every part where its surface has not previously received an image in fatty ink; but it has no *graduated* capacity of absorption. Where the fatty image is it repels water completely, where it is not it absorbs water completely, and the image must be produced in black and white. The photo-collographic surface possesses a discriminative power of absorption, and having taken water in the exact proportion that it has been protected from the action of light, it also takes ink in the exact proportion that it has been submitted to light and so gives an image in true photographic gradation. The character of the photo-collograph, is that of a lithograph with photographic qualities, whilst a photo-relief print possesses all the characteristics of the photograph itself.

Practical Details of Photo-collography.—

The principle upon which photo-collography is based is now tolerably well understood; but the practical details upon which success

depends seem to have been carefully kept secret by all who have worked out this mode of printing. As I have recently had an opportunity of witnessing the process in operation, some account of the details cannot fail to be interesting to your readers generally. The process as I saw it worked has been patented here by Mr. Ernest Edwards. The chief novelty in his process consists in the addition of a trace of chrome alum to the solution of gelatine and bichromate of potash of which the film is formed, and by this means he secures a degree of hardness which gives great durability to the film, and permits the production of many impressions. By the use of the chrome alum he is enabled also to dispense with any preliminary coating to secure adhesion to the glass.

A plate of glass about half an inch in thickness is coated with a measured quantity of the sensitive gelatine solution sufficient when dry to form a film of the thickness of a thin card. Care is taken that it does not flow quite to the edge of the plate, as by leaving an uncoated margin all around of about half an inch, the risk of leaving the glass in subsequent operations is much diminished. It is when quite dry exposed under a negative for about half an hour in a good light, after which it is soaked in cold water to wash out all the bichromate, but not to dissolve any portion of the gelatine. The plate may be left some hours soaking in the water at this stage, and if it is not to be used at once it is better kept there, as it is not desirable to allow it to dry before printing. At this stage the film presents an image in relief; but only very slightly so, which is desirable, as deep relief would materially interfere with the printing operations.

In most of the processes of this kind of which I have been able to gain any particulars, the rolling pressure of the copper-plate press, or the scraping pressure of the lithographic press, has been employed. Mr. Edwards employs vertical pressure, the ordinary platen press, known to letter-press printers as the Albion press, having been selected. The platen of glass rests upon a sheet of vulcanized India-rubber, about a quarter of an inch thick, which is laid upon

the carriage of the press. The printing operations very closely resemble those employed in lithography. The printing surface is first moistened with a wet sponge; an India-rubber *squeegee* is then passed over it to remove excess of water, and this is further effected by pressing a sheet of blotting-paper upon it. It is now rolled with a fatty ink, which consists of lithographic ink thinned with oil. The roller is a novelty: it is not covered with leather like a lithographic roller, nor with the glue composition used in letter-press printing; but with India-rubber, which answers better than either. Some time and care are necessary in inking the image up in the first instance, and the operation requires a workman skilled in lithographic printing; but when once in proper condition, the working goes steadily on as I have described. The plate is sponged, the superfluous water removed, it is inked with the roller; a sheet of paper, dry, is placed upon the surface; the tympan is brought down, the carriage run in, the platen pulled down, and the operation of printing is completed.

The paper employed may be plain plate-paper, or enamelled paper. The latter gives the finest prints, but their surface is very easily injured, hence a fine well-rolled plate-paper is most desirable. To preserve the margins clean, a mask of paper is cut the proper size and shape, and this is laid on the plate each time after it is rolled, and removed after the impression is pulled.

One very important feature of this process consists in the possibility of printing in two tints at one operation, and the principle upon which this possibility depends is very valuable in other respects. Mr. Edwards finds that if a somewhat stiff ink be employed, it will only adhere to the most thoroughly exposed parts of the image, neglecting the half tones, and yielding, on printing a hard black and white image. If, on the other hand, a very thin ink be employed, it adheres readily to the less exposed portions of the image, giving full effect to the half tones, but from its thinness, giving poor blacks. If then a properly exposed plate be rolled with a thick ink, it will adhere readily to the part forming the shadows, giving rich blacks. If the plate

be then rolled again with a thin ink, the shadows will not be injured, but the half tones will be perfectly rendered. In many subjects a black ink is used, first for the shadows, and a warmer tint for the half tones, by which a very effective result is produced. By taking advantage of the principle involved, it will be seen also that the character of the print can be modified at will. If a plate have been somewhat over-exposed, so as to yield a flat weak image, by the use of a stiff ink the contrast can be increased, and a vigorous print produced. If the plate have been somewhat under-exposed, and possess too much contrast, the use of a weak ink will give effect to the half tones, without giving undue depth to the shadows. This principle strikes me as one of the most important yet discovered in connection with processes of this kind.

The operation of printing is not very rapid, as it requires care. An ordinary workman will work off about 250 impressions a day; but as several small pictures may be produced on one plate, it is not difficult for one man to produce say 1000 cabinets a day.

Some of the work I saw done was very fine, but on the whole not quite as delicate as that of Herr Albert. I inclose you some average examples.

Rye's Photo-mechanical Printing Process.—You recently favored me with some specimens of a new photo-mechanical printing process which had been introduced into America, but of which the details were not published. As the same process has just been patented here, I am enabled to send you the specification, which will probably prove interesting. How far the complication of formulæ may be necessary or valuable, I cannot say; but it is worth remark that neither Herr Albert nor Mr. Edwards find it necessary to use other sensitive agents than the bichromates. Mr. Rye's specification proceeds as follows:

Over a very thick piece of plate glass, highly polished or plain, I pour a mixture composed of

5 to 8 parts of	gelatine,
20 to 40 "	albumen,
and 8 to 10 "	distilled water.

When this mixture has been poured over the glass, the latter is placed in a suitable oven to dry, after which the glass is exposed on the reverse side to the light; the glass is then washed, dried, and another mixture poured over it. This mixture is composed of

10 to 15 parts of	gelatine dissolved in 100 to 110 parts of water,
8 to 10 parts of	albumen,
3 to 5 "	bichromate of potash, dissolved in 10 parts of water,
3 to 5 "	bichromate of ammonia, dissolved in 10 parts of water,
1 to 2 "	gum myrrh, previously dissolved in 15 parts of alcohol,
1 to 2 "	gum benzoïn, previously dissolved in 15 parts of alcohol,
1-10th "	nitrate of silver, dissolved in 4 parts of water,
1-10th "	iodide of cadmium, previously dissolved in 8 parts of distilled water,
1-10th "	bromide of potassium, previously dissolved in 8 parts of distilled water.

When this mixture has been poured over the glass, the latter is again dried in the oven, after which it is ready for copying. This is effected by placing a photographic negative on the glass thus prepared. The copying will require from half an hour to two hours. When the negative has been copied on the glass, the latter is washed under strong pressure of water, so as to extract all the chromate; the glass is again dried, and is then ready for printing. The printing can be effected with common lithographic ink, by means of a lithographic or other suitable press, and rollers of leather or glue.

Washed Sensitive Paper.—The use of washed sensitive paper, fumed before printing, has continued to attract attention here, and the plan is found generally successful. The chief source of failure appears to be the use of a weakly salted paper, whereby a coating of chloride of silver, insufficient to give rich prints is formed. When free nitrate of silver is present, it combines with the chlorine liberated in the course of printing, to form fresh chloride of silver, so that even with a very weakly salted paper vigorous prints can be secured; but when there

is no free nitrate present, it is important that the layer of chloride of silver on the paper, shall be in itself sufficient to yield a rich image.

Double Chloride of Gold and Potassium.—In his communication on the uses of washed and fumed paper, Col. Stuart Wortley stated that he preferred the double salt of gold and potassium for toning prints so produced. His method of preparing this salt is very simple. He states it as follows:

Dissolve 50 grains of gold in *aqua regia*, composed of $7\frac{1}{2}$ drachms muriatic acid and $1\frac{1}{2}$ drachms nitric acid; when dissolved, add 18 grains carbonate of potash; filter, and crystallize over a spirit-lamp slowly. Watch carefully towards the end, and stir constantly till quite dry, and the acid is driven off. Dissolve the crystal in water, 1 grain to 1 drachm.

To make the bath, take a small lump of chalk (say 20 grains) and put in 20 ounces of water; add a little of the gold solution, shaking up well; use three hours after mixing. In cold weather allow four hours, in very hot weather, two and a half. Filter off into the toning dish, retaining the chalk in the bottle; after toning, return the bath to the bottle, and put in the light to favor the precipitation of any silver that may have gone in with the prints; add (daily) gold to the bath, according to the number of prints for toning, at the rate of 1 grain to four sheets. After a week or ten days' use the chalk will get black; then change it and throw into the residue from the old chalk.

"Rembrandt" Portraits.—From what I have seen of the "Rembrandt" style so prevalent now in the States, I have been impressed with the conviction that although the prints were not all perfect in themselves, yet the study and effort necessary in producing them would materially educate the photographer in the art of lighting the sitter effectively.

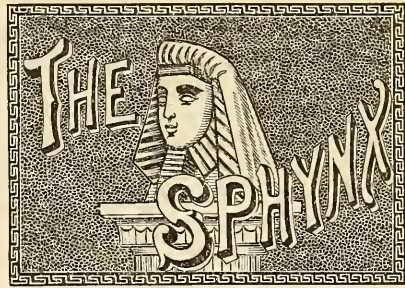
I notice that in your last a correspondent enters a protest against the "Rembrandts" as unnatural and extravagant. It is somewhat curious that just about the same time a correspondent of the *Photographic News* entered a similar protest.

In a previous number I had spoken in high terms of some of the examples by Mr.

Kurtz, and of the educational value of the efforts to produce varied effects in lighting. The gentleman who, under the *nom de plume* of "An Old Photographer" contributes "Echoes of the Month" to the *News*, expresses his dissent in the following paragraph, which your readers may take *quantum valeat*. He says:

"From what I have seen of the American 'Rembrandt' portraits, I do not think that the style will ever become popular in this country, and I must confess that I hope it will not. The argument of Mr. Kurtz in their favor, quoted in your last, will not, I think, hold water. He says that commonplace or ordinary faces, when lighted in an ordinary manner, will always remain ordinary. And why should they not? Molly the cook has a fat, chubby, good-natured face, which, lighted in an ordinary manner, will present the picture of a respectable cook; but lighted in an extraordinary manner, it may, by startling effects of light and shade, be made to suggest a Lady Macbeth. Is this desirable? Your milkman may be a very estimable and sensible man, but if his photograph present him with a glance which should 'overawe the world,' the portrait will assuredly be an absurd practical solecism. I have been reminded by some of the 'Rembrandts' of the effects in sculpture which at one time prevailed in the States, that of Elijah Pogram, for instance, described by Dickens as a 'statue of the Elevated or Goblin School, in which the Honorable Elijah Pogram was represented as in a very high wind, with his hair all standing on end, and his nostrils blown wide open.' This overstepping the modesty of nature in photography is most intolerable. So far as the study of varieties of lighting is an instructive process, and may lead to a higher mastery of this important branch of the portraitist's art, it is all very well; but the elevated or goblin school of actual portraiture is more offensive in photography than even in sculpture."

NEVER use anything damp to give the final polish to the plate. Pass a broad camel's-hair brush over the plate just before pouring on the collodion.



SPHYNX looks a great deal better this month, and we hope it is going to result in good. Correspondents will please write only on *one* side of their paper.

Additional Answers to August Queries.

1. Float not longer than forty-five seconds, on a plain silver solution not over thirty grains strong. (We work it for solar printing only twenty grains, but it is rather weak for direct printing.) Fume ten minutes, using fresh ammonia not diluted.—W. L. SHOEMAKER, with ALBERT MOORE.

1. I do not believe that any known practical method is absolutely certain, but would recommend silvering the shortest time on a bath made of silver 480 grains, fused nitrate of ammonia 480 grains, water 16 ounces. Dry by artificial heat, and keep in a close, dry box until ready for use. I cut forty-eight card prints from one sheet of paper just the size when mounted, so that no trimming is necessary. I have a cigar-box with a perforated false bottom, one inch from the bottom of the box, which can be removed at pleasure. I place a little air-slacked lime in the bottom of the box, and when I am ready to fume my paper, which I do a few slips at a time as I use it, I add to the lime a little grated sal ammoniac or pulverized ammonia alum; place the perforated bottom, put in the paper, and let it fume just long enough to print with a purplish hue, and remove it, and add more paper, and soon all day. This method is not only cheap, but it will also be noticed that it avoids using an aqueous solution of ammonia, from which the paper absorbs moisture. By this dry fuming process, chloride of lime is formed, which absorbs water from the atmosphere, and the paper remains dry; the process is also very convenient, as the fuming-box

stands on the table when the changing of the prints from the frames is done; it is neat, and I would not exchange it for anything else I ever heard of.

To cut my paper I have several strips of glass the width of the length of a card print, and one strip the width of the print. I place five or six sheets of paper together on a large sheet of glass, place the wide strip of glass upon them, and cut with a knife into sections the width of the strip of glass. I then take one of the sections with the strip of glass remaining upon it, slip it down from one end, place the narrow strip of glass against the end of the wide one, and cut the section into strips just the size required when done. By this means I economize paper, chemicals, and time.—F. M. SPENCER.

2. A "true Rembrandt effect" is something no one has yet seen in photography; nor will we see it until some brother discovers a way of *shading the linen* and other *white* drapery to be found in nearly all pictures of this style. If Rembrandt had painted the white of his draperies in such a dead, flat, inexorable manner as we see them now photographed, he would have been hooted and laughed at by all his art-contemporaries. To see a collar, bosom, laces, etc., just as white in the deepest shadows as in the highest lights, is *anything else* than a "true" effect, either in a "Rembrandt" or any other picture; and, to our mind, is the great drawback in this beautiful style. When shall we see it remedied?—GEO. B. AYRES.

4. Mr. Cummings' answer to question four in September No. is unsatisfactory: "these little particles" must be *put out* and *kept out of the bath* at all hazards, and at whatever cost of time and labor. Those photographers working small baths will have no trouble in accomplishing this. To those using large baths I propose a question below.—ECNEROLF.

Answers to September Queries.

1. "ALCO'S" trouble, probably, lies in the collodion being too tough and horny. If one collodion works well, and the other does not, under precisely the same conditions, the chances are that the bad collodion is not sufficiently permeable to the various solutions; this comes from the cotton gener-

ally, but can be modified more or less by the solvents. Remedy: add some iodized alcohol to the collodion, or perhaps, what is better, a few drops of water, and when making collodion, make it with an excess of alcohol.—G. H. FENNEMORE.

2. Sugar of lead 4 ounces; Paris whiting 4 ounces; Prussian blue and raw linseed oil a sufficient quantity; a little spirits of turpentine to make the surface look dead. Apply with a small printer's roller used for inking forms of type, by rolling first on a piece of board smeared with color, then on the outside of the sash to enable you to coat the glass close to the rails.—"STUCK" ONST, BUT GOT OUT.

2. I have tried a good many ways to get blue frosting on my glass properly. I generally buy what I use of my stockdealer. I apply it with a paint-brush in the usual way. Then I take a large paint-brush, wrap strong twine around the bristles to within nearly an inch of the end (see drawing) and stipple with it. It works capitally.—LIVINGSTONE.



3. An under-exposed negative, is one in which the developer fails to bring out the details in the shadows, the latter being represented by too much *clear glass*, the plate exhibiting the appearance of an ambrotype, *i.e.*, the high lights are *full* of detail and the shadows *devoid* of detail by *reflected* light, and shows *too much contrast* by transmitted light. On the contrary, an over-exposed plate develops rapidly, and shows very little picture by reflected light, and *too little contrast* by transmitted light. Remedy in both cases,—throw them in the potash-pot. A properly exposed negative should develop slowly, but steadily increasing in detail in the shadows. By *reflected* light the darker parts of the draperies and hair should be brilliantly seen; the highest lights should exhibit no details whatever. By *transmitted* light just the reverse should obtain, no detail in the dark portions of the drapery, and the highest lights full of the most delicate gradation of light and shade.—ELBERT ANDERSON.

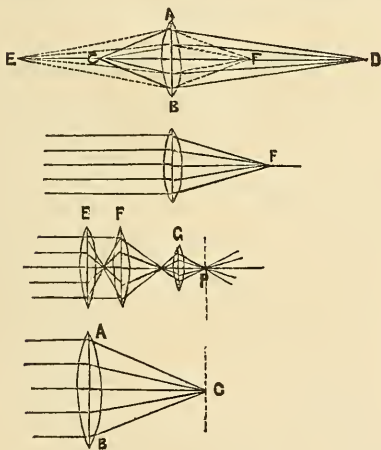
3. If "Honest" will read with care Lea's *Manual of Photography*, it will give

him very valuable information on the subject he inquires about and many others.—**MOMUS.**

3. When a negative is under-exposed it will look much like an ambrotype; it is black and white, and generally too intense for a good picture. An over-exposed negative is just the reverse; you cannot see the image hardly when looking at it by reflected light. Prints from it are flat and gray, drapery and face being nearly of one color.—**GEORGE H. FENNEMORE.**

3. See E. L. Wilson's explanation, page 139, *Mosaics*, 1868, the whole thing in a nutshell.—**J. EDWARDS SMITH.**

4. The term *equivalent focus*, is sometimes applied, though improperly, in different ways. Let me make a diagram to explain my meaning: let A B represent the lens. If an object, C, be placed before this lens, it will find its focus say at D, and *per contra*, the object placed at D would find its focus at C. These points are termed the



conjugate foci. It is now evident that if the object be removed to E, it will find its focus at F, and *vice versa*, thus these points are changeable; now, suppose the rays of light which strike the lens are *parallel*, as in figure 2, they will find their focus at F, and as this point is of course unchangeable, it is called its *principal focus*. If then, the lens A B, fig. 4, has its principal focus at C, and the combination of lenses E F G, fig. 3, has its principal focus at P, it is called the

equivalent focus, in fact, the *principal focus*, of a combination of lenses.—**E. ANDERSON.**

QUESTIONS.

1. It is well known that pinholes are the result of several causes, to wit, excess of iodide, dust floating in the bath, particles of detached film, or from dust lodging on the sensitized plate during the manipulations.

Now when pinholes make their appearance, how shall we determine *which* condition named above caused them? This is a "point" to those working large baths, for if surplus iodide is not the cause, there is no need of diluting and boiling down large quantities of solution.

I indorse heartily Mr. Anderson's recommendation to use large bath-holders (see p. 307, Sept. No.), as Mr. Anderson says, they are cheaper and incomparably cleaner; my bath is about 18 x 26 inches, and holds from 2 to 2½ gallons of solution. I use a dipper about half the length of the bath, resting on a pin through the stem. This allows these "little particles" to settle out of the way, at the bottom, where they are not disturbed, and I seldom have occasion to filter. Excess of iodide is, however, guarded against and prevented; *sometimes*, however, the question named above comes up in practice. Let's have it answered.—**ECNEROLF.**

2. Why are hydrometers marked to indicate 30 grains, when they really represent 60 grains?—**MARSHALL.**

3. A hot solution of nitrate of silver indicating 40 grains, will, when cold, indicate 60 grains more or less. Why?—**M.**

4. Are there any means of making a colodion which works hard (or black and white), work softer? If so, what?—**M.**

5. Are there any means of making a colodion which works flat, work rounder, or give more the appearance of depth to the negative?—**M.**

6. Why are acetate, phosphate, tungstate, &c., of soda put in toning baths, and what effect do they produce?—**M.**

7. In attempting to fuse an old negative bath, I have it in a porous metallic state. Where is my *error*, and what treatment

shall I give it in order to use it again?—W. A. Cox.

8. A very strong solution of iron gives a coarse deposit; a very weak solution a tendency to fog. Then what are the proportions to give the best results?—CORKS.

9. My trouble is a thin veil of metallic silver all over the plate. The image comes out strong enough, but is covered with the fog. I can rub it off or brush it off when the plate is dry. I have been bothered for more than six weeks with it. Can you tell me how to get out?—"SAM" IN A FOG.

10. I have been building a new gallery, and was compelled to make my top and side-light face the west. What is the very best way of screening or curtaining it, and what colored material is best? white or blue?—E. F. L.

11. Can I make a green glass for dark-room? if so, how?—E. F. L.

PHOTOGRAPHIC WORLD.

DR. VOGEL arrived in Liverpool, September 6th, safe and well.

So far, about 4000 francs have been subscribed to the Niepce de St. Victor fund.

ONE-HALF the space of the foreign journals is devoted to descriptions of the carbon process.

THE army of the Crown Prince is accompanied by a very efficient corps of photographers.

A BAND STOP for lenses, is suggested by the *British Journal*, as being handier than those now in use.

DR. STINDE states that a mixture composed of equal parts of a saturated solution of bichromate of potash and sulphuric acid, will cleanse vessels from dry and coagulated albumen.

THE *British Journal* in commenting upon the organization of the new Pennsylvania Photographic Society, says it "shows that there is much life in connection with photography among our brethren across the water."

A CONTRIBUTOR to the *British Journal*, says, "When surface stains occur upon the plate, the trouble may be obviated by add-

ing plain collodion to the iodized sample that produces the effect."

OUR good friends Messrs. Lœscher & Petsch, the eminent Berlin photographers, we are informed, are both fighting in the Prussian army. May they both be spared to our art, for it cannot spare them.

MR. H. BADEN PRITCHARD in the *News*, devotes a paper to the comparative merits of the Woodbury and Albert processes, and declares the former to be as superior to the latter, as engraving is to lithography.

ONE of the excuses for the late dreadful massacre in China was, that the "sisters of charity kidnapped the Chinese children, and gouged out their eyes to make collodion of, for use in the diabolical art of photography."

THE French Photographic Society, will erect a monument to the memory of M. Niepce de St. Victor, and M. Adam Solomon is to be the sculptor. Where are our grateful photographers whom we expected would contribute to the fund for the widow of our deceased benefactor?

A SIMPLE way to determine the amount of water in alcohol, is as follows: A little chloroform is poured in a graduated tube and a certain volume of the alcohol is added; after shaking it well it is left to settle; the water has separated from the alcohol and combined with the chloroform, and the graduated scale will show the amount of it.

HERR ESSE, in the *Mittheilungen*, recommends iodizing the albumen for the preliminary coating of the plate, and recommends the following:

Distilled Water,	.	.	25 ounces.
Albumen,	.	.	1½ "
Iodide of Ammonium,	.	.	1½ drachms.

Shake well, filter, avoid air-bubbles.

Plates thus treated are good for a week.

UNDER the heading "Foreign Invasion," the *Paris Moniteur de la Photographie*, of July 15th, describes how the laboratory of Dr. Phipson, in London, was invaded by an army of ants, which were imported from Guiana in some cases of sugar-cane, left at the laboratory for analysis. Everything was covered by them in an instant. The heading in the *Paris Journal* was rather ominous.

Editor's Table.

HOW TO BECOME A MEMBER.—Photographers who wish to be identified with the National Photographic Association, and to share its benefits, may do so by applying to Edward L. Wilson, Permanent Secretary, Philadelphia, Pa. Remitting \$4,—\$2 for entrance fee and \$2 for dues up to June, 1871,—and certificate of membership will be sent. *Employees half rates.* Come, now, grow with its growth and share its honors.

MR. HOWARD A. KIMBALL received the silver medal from the New Hampshire Agricultural Society for his exhibition of stereoscopic views.

THE RELIEF FUND.—The Board of Trustees did not meet last month as was expected, on account of the inability of some of the members to be present.

A DESIRABLE LOCATION.—Mr. John L. Gibon advertises his establishment at 812 Arch Street, for sale. It was formerly occupied by Messrs. Henzey & Co., and described by this Journal. It has one of the best lights in Philadelphia.

In the Bowery in New York is a photographic gallery; on one side of the hall a placard is posted, "Parties learned the business;" on the other, "4 for 25 cents." Where is the first quartette to go and learn the business "cheap?"

On Saturday, September 3d, Mr. Samuel Godshaw, Sr., a photographer, was shot mortally, during a fight with his landlord, who attacked him. The landlord was killed, and Mr. Godshaw cannot recover.

MESSRS. E. CLINTON & Co., manufacturers of artists' brushes, have removed to Nos. 931 and 933 Market Street, Philadelphia. No quality of brushes in America is better than theirs, and all colorists should use them. See advertisement.

MR. I. B. WEBSTER, Louisville, Kentucky, informs us that agreeably to promise, he has sent his carte to several of the parties he met at Cleveland, for exchange, and they have not responded. Such an interchange is pleasant, and we hope it will be kept up.

PHOTO-ENAMEL LOST.—At the Cleveland Exhibition, Mr. John A. Scholten, of St. Louis, exhibited a few small burnt-in enamels in colors, and one of them was not returned to him after being passed around for examination. He very much desires it returned, as it belongs to the lady whose picture it is, and she very much de-

sires it. We hope that it will be returned promptly to Mr. Scholten, for surely no one else has any right to keep it.

WILLARD MANUFACTURING COMPANY.—This once popular and prosperous New York stock house no longer exists. The stockholders, after struggling for life for some time, finally made an assignment, and on September 8th, the remains of their stock was sold at public sale. The stock business in New York has much changed within a few years.

THE AMERICAN INSTITUTE FAIR.—The 1870 Exhibition of the American Institute opened at noon September 7th. Mr. H. J. Newton, Chairman of the Committee on Photography, has made unusual exertions to secure a fine exhibition of photographs with good success, we understand. We shall report fully upon that department in our next number.

"A COZY LITTLE PLACE."—During Dr. Vogel's stay we visited with him some of the large manufactories of Manayunk, accompanied by Mr. W. G. Entrekin, the photographer of that place. Mr. Entrekin has one of the neatest and most cleanly galleries it has ever been our pleasure to see, and good work is the result. He declares that this Journal converted him to cleanliness, for he was once careless. But now he indorses our views on that subject, considering it as important to have all things clean, as he does to use good apparatus and chemicals. He has a "cozy little place."

THE UNIVERSAL PHOTOGRAPHIC REVIEW, is the caption of a new photographic magazine, the first number of which is before us, published and edited by Sig. A. Montagna, Messagne, Italy. It looks very neat and promising, and we wish it abundant success. It is to be issued monthly, instead of semi-annually, as at first announced, and is to be illustrated by photographs. The illustration in the present number is a Holyoake card. We notice with pleasure, that our friend Sig. Ottavio Barratti Cav., is to be one of the staff, and we shall print a translation of his first article in our next number.

HOVEY'S ALBUMEN PAPER.—On the outside of our cover Mr. D. Hovey advances his claims for his excellent albumen papers. Several of our pictures have been printed on his paper, and since then it has been one of the favorite brands

—never more so than now—still Mr. Hovey continues to advertise it largely; knowing that such a course insures success. He desires us to especially ask photographers to work his paper by his published formula. He says, "I have seen it worked as low as 16 grains, and always with success. It is the best formula I ever saw used." Knowing a good formula—one that suits the paper,—we need hardly say that it should be given the preference.

A NEW STOCK-HOUSE IN BALTIMORE.—Our Southern and Southwestern friends will be glad to know that Messrs. Dinmore and Wilson (old Baltimoreans) have opened a new and extensive stock-house at 125 W. Baltimore Street. See advertisement.

RECEIVED from W. A. Beers, New Haven, Connecticut, some excellent cabinets and cards, "produced," as he says, "by no secret dodge or patented process." From Messrs. Halsey & Coffin, Dutch Flat, California, eighteen very interesting whole-size views illustrating hydraulic mining in that gold region. The negatives were mostly made with the thermometer at 110°. From Mr. Jno. R. Moore, Trenton Falls, N. Y., some new 14 x 17 and cabinet views of that enchanting place—a wondrous creation of nature which all should see once in a lifetime at least. From Mr. Well. G. Singhi, Bainbridge, N. Y., some whole-size prints—one of two little girls, being a sweet rustic picture and well taken. From E. A. Staunton, Davenport, Iowa, a view of a farm-house, without explanation. From Mr. M. H. Monroe, Rochester, N. Y., some stereos of Trenton Falls, N. Y.

CONSTITUTION, BY-LAWS, ETC., OF THE NATIONAL PHOTOGRAPHIC ASSOCIATION.—Agreeably to resolutions carried at Cleveland, before this reaches our readers, *all the members of the National Photographic Association* will have received a copy of the Constitution, By-Laws, and List of Members of the Association, together with the *Report of the Committee on the Relief Fund*. It makes a handsome little pamphlet of 48 pages, and contains 624 names and addresses of members. We hope the number will soon reach one thousand.

Each member is entitled to one copy, and if any have been overlooked, they will please notify the Secretary, when they will have attention.

LOCAL PHOTOGRAPHIC SOCIETIES.—We hope the local societies will renew their meetings now, and that new societies will spring up wherever there is material to support them. There is no

greater source of advance and improvement than contact with your co-workers.

NOVEL TONING FORMULA.—When Dr. Vogel left New York, Mr. William Kurtz, who managed the financial matters connected with the visit of our distinguished guest, handed him a small vial with the following inscription:

"A New Toning Bath.—Gold—all you can get. Dissolve in—an equivalent in Champagne. Let settle. Next morning early, add one alkaline Dutch herring, to neutralize the acid in the gold. The result will be a beautiful tone—to the stomach—though too much chloride of Aix will tend to foginess. Red tones may be produced by 'Old Bourbon.' Blue tones by a mixture of acids."

The vial contained fifteen \$10 gold pieces, which we know from Dr. Vogel's temperate habits, will hardly be used in the practice of the formula which accompanied the parting gift of his American friends, though no doubt the gift "elevated his spirits" considerably.

ANSWERS TO CORRESPONDENTS.

T. L. MITCHELL, ST. JOSEPH, MISSOURI.—The Jacobsen's aniline and the "L' Encausse" colors advertised in this journal, are both excellent. They may be mixed in such quantities as you desire to use at a time, and full directions accompany them.

"EXCELSIOR."—"The use of central stops" is to increase the definition or sharpness of the picture by their action on the marginal rays, reducing the spherical aberration. They also add to the focal depth of the subject. To teach you "where and when they should be used," would require practical lessons. The smaller the "stop" the sharper the picture, and the slower the lens works; so you see the light, the subject, etc., all regulate the use of the stops. Practice will benefit you.

T. D. SAUNDERS.—The pose and lighting do you credit; but a few more seconds' time would have greatly benefited the picture.

JNO. A. FRITH, ST. GEORGE'S, BERMUDA.—We accept with thanks.

PAIK BROS.—The lighting is not very good, being too much from the top and too much in one direction. Most of the hair, you see, hangs in entire shadow. The white dress is overtimed and the face undertimed. Try again.

C. H. S. WARREN, O.—We never saw a lens that would "cut sharp all around the outer edges and not in the centre." Send us a print, and we may be able to account for it.

T H E

Philadelphia Photographer.

Vol. VII.

NOVEMBER, 1870.

No. 83.

Entered, according to Act of Congress, in the year 1870,
By BENERMAN & WILSON,

In the Clerk's office of the District Court of the United States for the Eastern District of Pennsylvania.

THIRD ANNUAL EXHIBITION

OF THE

National Photographic Association of the United States.

THE Third Annual Exhibition of the National Photographic Association of the United States will be held in Philadelphia, Pa., beginning the first Tuesday in June, A.D. 1871.

This early notice is given, to invite exhibitors from foreign countries to bear the matter in mind, and consign their parcels in good time. Ample preparation will be made to accommodate such contributions, and to care for them while here, as well as to return them when they are not to be sold for the owner. Foreign pictures will be admitted free of duties, and it is hoped to secure such arrangements as will bring very little expense for freight if any upon the exhibitor. Full particulars will be communicated by circular to all intending exhibitors, who will kindly address the Permanent Secretary for the same. Please also see future notices.

Regulations for American exhibitors will be given hereafter.

EDWARD L. WILSON,
Permanent Secretary, Philada., Pa.

W. H. RHOADS,
Local Secretary.

GERMAN CORRESPONDENCE.

Photography and War—The Limits of Negative Retouching—The Qualities of Different Negative Varnishes—American Enlargements and Chromos in Berlin.

FOR the first time in four months I send you my correspondence from Germany. My heart is still full to overflowing with all the grand impressions of America. My own home almost appears to me as a foreign world, and strange, indeed, does it look here. What a difference between then and now. I left my Fatherland when everywhere was peace; I return, and the evidences of war meet me on every side. The principal business of our photographic galleries is no longer with the living but with the dead,—the portraits of those that fell in battle. Everywhere I see reproductions of cartes de visite, negative or positive, and the plates which two months ago were ready for the cleaning bath are now valuable, as their originals are no more.

In glaring contrast with this serious aspect of affairs, we are flooded with numberless caricatures of Napoleon, Eugenie, and the conquered "grande nation," the red pantalooned children of which traverse the streets of the neighboring fortress of Spandau in such numbers, that one feels almost inclined to fancy one's self in France instead of Germany.

The war in its main phases apparently approaches its end. Our most sanguine expectations have not only been realized, but the reality is much more glorious than what we dared to expect. I arrived too late to offer the Fatherland my services, but hundreds of my colleagues and my scholars have gone, and many a one rests now under the cool green turf of France. Petsch, of the firm of Loescher & Petsch, well known in America as the author of "Gems of German Life," is in camp before Metz. Many proprietors of less known establishments are marching on Paris, but to fill up the vacancies, many expelled photographers from Paris arrive here. Amongst these, is Romain Talbot, a Prussian by birth, but living for the last twenty years in France. He had to leave with wife and child. So also Erwin Hanfstangel, and the well-known photographer, Reutlinger. The Royal Polytechnic Academy, the field of my activity, stands empty. My apparatus is all in the field before Strasbourg to "take" the fortifications. My assistant, Mr. Schwier, and my "silver boy" were, eight days before my arrival, engaged for this purpose by the Secretary of War. I was not a little surprised to meet these peaceable citizens on my return in warlike uniform as "field photographers." If I had arrived home a week sooner, it would have been my fate to go, and seriously speaking, I would not have been sorry.

The work of the photographer in front of the fortress is a dangerous one, but very interesting. With a camera placed exactly horizontal, they take a landscape view, and from this view topographical maps are constructed. A number of engineers and draughtsmen are connected with them, and all the French fortresses will be photographed by them. The way in which these pictures are taken I have already explained to your readers, in your valuable journal; also in my Handbook, on page 204.

The employment of photography in war is yet rather in its infancy, but much more extensive use is made of photo-lithography, for the multiplication of the French maps of the general staff. For an army advancing into the enemy's country, the possession of exact maps is of more importance than the

daily bread, and as it is very seldom known beforehand what special maps will be used, it is of great importance to have a method at hand, by which a hundred or a thousand reproductions can be made in a very short time. This is possible by photo-lithography. So far, all these maps have been made in Berlin, and have been forwarded to the army. In future wars (which we, however, do not desire), a travelling photo-lithographic atelier in the rear of the army may be established, to save time. Not a small portion of our successes are due to these maps. The French army were very scantily supplied with maps. On the officers who were taken prisoners, only a few maps of the Rhenish provinces and plans of Berlin were found; not a single map of France. That they would need the map of their own country the most, never entered the heads of these gentlemen.

It is evident that under these circumstances, little can be done for the promotion of photography; still I am glad to be able to report, that immediately previous to the breaking out of the war, very interesting photographic investigations have been published; amongst these I count particularly an article by Hans Hartmann, entitled "The Ultimate Purpose and the Limits of Retouching the Negative."

Negative retouching has within a short space of time extended over the whole civilized world. Its necessity for the production of an artistically beautiful picture has been acknowledged by all thinking photographers, and still it cannot be denied that after we go too far with our negative retouching, all wrinkles are covered up, and finally not only the wrinkles, but the whole character of the face is lost in the retouching.

The artists call such smooth retouched heads, which look like the model heads in a hairdresser's shop window, "bladder-heads." It is often the fault of the person who orders the picture that "too much of a good thing" is done. "How old do you wish to look?" asks a photographer of a vain old lady; "under or over fourteen years of age?" With such whims, art must cease; but thank God, such fools are in the minority, and their number lessens from day to

day, as the artistic education increases amongst the general public. A forehead is not a flat board, but has curves. Many photographers forget this, and transform the most genial part of the human face into a monotonous plane. The same may be said of the cheeks and lower jaws. Particularly is this the case with many Rembrandts taken in profile, where it is impossible to say where the lower jaw ceases, and the throat commences. Very often faults in the illumination are the primary causes of this, but even these are easily corrected by a skillful retoucher. I only give you examples, and recommend to you a translation of Hartmann's article for your journal, as he explains in a clear and concise manner, what should be retouched, and what not.*

No less interesting is the report of our committee for the examination of negative varnishes. It appears to me that the American varnishes are better than ours, for I have not heard nearly as many complaints about the splitting of the film as I have heard here. In many instances the climate may be to blame; with you the air is drier than with us. I was astonished to see negatives two hours after varnishing, sufficiently dry for retouching or copying; with us, from six to twelve hours are necessary.

The investigations of the committee have demonstrated what influence the gums themselves have on the quality of the varnish. Sandarac has generally proved the worst. The committee cautions the photographer against its employment, and also calls attention to the very changeable properties of *bleached shellac*, while unbleached shellac, in spite of its yellow color, proves very reliable. Bleached shellac, by its treatment with chlorine, has lost its most valuable qualities. Mastic varnishes have proved, according to the investigating committee, the most reliable. The committee took also into consideration in how far the coating of the plates with gum arabic, glue, etc., previous to varnishing, was of advantage. Such applications are frequently employed with us, because, on the one hand, a cracking of the film is avoided, and, on the other, the retouching with lead-pencil on the gum

arabic film is easy, and can subsequently be protected by a coating of varnish. It has turned out, however, that gum arabic yields a very poor film, that it does not in any way protect the film from splitting, but that on the other hand yellow dextrine in solution (1 part dextrine to 8 parts of water) not only prevents cracking, but forms a splendid surface for retouching.

The plates are afterwards varnished as usual. White dextrine should not be used, as it is injurious,—another example similar to shellac, that purification, or rather bleaching, when it is carried too far, does not improve the article, but rather makes it worse. A coat of dextrine has a striking beneficial effect on plate-glass.

But a livelier interest than our domestic investigation has been excited here by my American novelties. My two heavy boxes with pictures, have safely come to hand, after being opened three times—in England, Belgium, and Germany. Only the transit from England to Belgium caused particular difficulties, as the boxes were suspected of containing contraband of war. So far, I have only shown Moore's (Philadelphia) enlargements, and Prang's (Boston) chromos. They have been generally admired. "Such things have not been made in Germany, as yet," is the general opinion, and I feel happy that I have been the means of convincing my countrymen of the great excellence of American work. More anon on this subject.

Yours, very truly,
DR. H. VOGEL.

On a New Mode of Employing Silk in Photography.

BY JOHN SPILLER, F.C.S.,
(Hon. Secretary of the Photographic Society of London.)

IN a paper read before the Chemical Section of the British Association for the Advancement of Science (Liverpool meeting), the author pointed attention to the fact that silk differs from all other known fibres in respect to being easily soluble in hydrochloric acid, forming a mucilaginous solution which when mixed with ammonia in excess and carefully evaporated to dryness over a water-bath gives rise to the production of a new organic salt, which promises to play

* Herr Hartmann's paper will be printed in our next.—ED. P. P.

an important part in photography by virtue of its producing with nitrate of silver an extremely sensitive form of argentic chloride. The precipitate obtained by mixing the two solutions, is no longer curdy like the ordinary condition of chloride of silver, but appears in the form of a flocculent white substance, which remains for a considerable time in suspension, and, owing to the presence of the organic matter, is much more quickly affected by light.

The author has investigated the chemical properties of certain salts formed in this manner from silk, and exhibited at the meeting a photograph printed on paper prepared with a ten-grain solution of the new organic chloride, and afterwards sensitized with a sixty-grain solution of nitrate of silver. Comparative tests showed a considerable advantage in point of rapidity over a plain salted paper similarly treated, and the author urged the superiority of this salt when employed for mat-paper prints and solar camera enlargements, and further hinted at the possibility of using it in the collodio-chloride process.

The remaining part of the author's communication treats of the use of concentrated hydrochloric acid for determining the purity of silk and dissolving it out from certain mixed fabrics, and describes a mode of identifying the silk in solution, in the loose fibres (or partially disorganized fabric) left unaffected by the acid. It is then proposed to distinguish wool from cotton, linen, jute, etc., by taking advantage of the test recommended by Professor Pohl, of Vienna, who found that wool alone of these fibres becomes dyed of a yellow color by immersion in a warm aqueous solution of picric acid. This part of the subject, however, has no reference to photography, but specially relates to "the discrimination of fibres in mixed fabrics"—the title of Mr. Spiller's paper.

On the Production of Proper Negatives for Retouching.

BY WILLIAM BELL.

(Read before the Pennsylvania Photographic Association.)

I HAVE nothing original to offer to your notice, but simply adaptations from the

source of information, *The Philadelphia Photographer*, together with ideas derived from the study of the Berlin cartes, by Loescher & Petsch, and others.

I am convinced that the Berlin negatives are weak after developing with iron, but well out in all their details, forming only a good basis for strengthening and coloring or toning, up to the required printing strength. On such information and ideas, the following mode of imitating the Berlin cartes I venture to bring before you: Use O'Neil's process (March number *Philadelphia Photographer*), i. e. cotton giving but little intensity, and not more than three to four grains, to the ounce of mixed ether and alcohol. The plate must be well exposed, and when developing, flow the developer over the plate so as to wash off most of the silver. Develop as long as any detail will come in the shadows. Wash well and re-develop with weak pyro and silver.

1. Pyrogallie Acid, . . . 1 grain.
Citric Acid, . . . 5 grains.
Acetic Acid, . . . 10 drops.
Water, . . . 1 ounce.
2. Nitrate of Silver, . . . 5 grains.
Citric Acid, . . . 5 grains.
Water, . . . 1 ounce.

Develop until the right intensity is secured, wash and fix. Wash after fixing again, and tone in the gold and soda bath, recommended in the *Bulletin*.

- Chloride of Gold (neutralized), . . . 15 grains.
Water, . . . 16 ounces.
Hyposulphate of Soda, . . 60 grains.
Water, . . . 16 ounces.
Salt, . . . 40 grains.

Always add the gold to the hypo solution drop by drop, shaking after each addition; let the negative remain in this until it is of the required color. Wash well, dry, and varnish.

To retouch, moisten a little cotton with

- Turpentine, . . . 1 ounce.
Balsam of Fir, . . . 20 drops.

Rub over the negative, and then rub it dry with clean cotton: this gives a ground that the pencil-mark will adhere to. Work up the negative more by dots than strokes, rub-

bing it well every now and then with clean cotton. Finish with Prussian blue what the pencil fails to remove (J. F. Ryder, Cleveland, Ohio, March number, 1870). Use a magnifying lens, as described by C. A. Winsor, October number, page 359, *Philadelphia Photographer*. It is of the greatest assistance. The negatives and prints before the Association will give some idea of how near they approach the Berlin cartes.

UNDER THE SKYLIGHT.

BY ROLAND VANWEIKE.

No. IV.

WHAT'S that noise, Focus?

"It's a baby do zit."

Goodness! they must have started without its breakfast, to get here so early and have it cry so. Perhaps no better opportunity will offer, Focus, than to fulfil my promise, and give you a lesson on babies today. The baby is a peculiar subject, and its little individualities and freaks of temperament need to be studied and humored as much as in older persons.

"Seems to be it must be hard work to dake babies."

There are some photographers, Focus, that won't make pictures of babies at all; at least, I have heard of those who did not, and I know they were not successful in the business. The baby is often the key that unlocks the purse for the whole family, to the benefit of the photographer. Besides, operating with them is a good school for self-government; it gives a man an opportunity to practice keeping his temper—for of course no man would get into a passion with a child—and as patience is, or should be, part of a photographer's profession, nothing, perhaps, will make him exercise this virtue more than making pictures of children. I have become satisfied, however, that one of the best means to help one to understand their dispositions and work into their good graces, is to have some of the little pets—I don't mean pests—of his own in his own home. But you need not be discouraged, Focus, there's time enough for you yet, and a love for children is, after all, the great thing necessary to operating with them successfully. A kind word or look

impresses itself upon the tender, sensitive nature of the child, and you oftentimes gain its confidence at once.

We may be perplexed with business, or have more serious matters occupy our minds, but when it comes to this, we must, for the time being, come down to the child; we must forget all other things, and enter, as far as possible, into sympathy with this little sprig of humanity before us.

If you do not succeed with one trial, try again, and continue to try so long as there is any possibility of success. If the child is neither frightened, cross, or tired, keep your temper and persevere. If you cannot get it one way, try another; your success will depend much upon your resources, as well as your patience; and when, after failing again and again, the fifth, sixth, eighth, or dozenth trial, you succeed, you feel amply repaid for all your efforts.

"The baby is ready."

Very well, we will proceed. This being a little one, we will sit it in this chair. The arms prevent its falling over, and as it rests against the back, we do away with the necessity of using the head-rest. The rest, however, is almost useless with small children, as it is very difficult to get them to keep the head against it. A smaller chair than this even, might be better, as some of the subjects are so small that there seems to be more chair than child. But it won't do to be too fastidious in this respect, for whatever means we employ to catch a perfect impression of the little one, with the greatest certainty, will insure us the greatest success. This little fellow seems to have been somewhat out of sorts this morning, but appears to be feeling better now, and if we proceed gently with him, there will be no trouble. Be very careful about making any sudden noise, or having any loud talk or calling. Let the mother stand near him, so as to be out of the picture, and he will not be so likely to be frightened. We must work lively, Focus, with these subjects; see that he rests against the chair, get your focus, adjust your plate, fix his attention with some toy that has motion without being noisy, and make your exposure.

"The dext is a little buppy."

Well we'll see about that. It's a child

just can tottle, with a doll almost as large as she is, and a poodle dog. They want the child standing, with the doll and poodle in some "pretty position." The doll may do, but the poodle never, especially such an animal as that, that is never still the tenth part of a second unless asleep. The only way in cases of this kind, is to say firmly and decidedly, if they want a good picture of the child, the dog must be left out; unless you have nothing else to do but experiment.

Now here is the mother, father, grandmother, and I presume, old maiden aunt, and there's a perfect Babel; we shall be bewildered, if the child is not. The first thing to be done, is to send out all but the mother, and then see what we can do.

"She's afraid uv be."

She seems to be afraid of everything. We can't get her standing.

Now this is a case that requires peculiar treatment. We must gain her confidence and get her interested. Examine and praise her boots, the locket on her neck, the ring on her finger, her doll, its dress, feet, and everything about it, and finally, propose to make dolly's picture. She seems suspicious no longer, but readily assents to the suggestion. Now, the matter of making her picture must not be hinted, but everything that's done is for dolly. She is perfectly willing to sit with dolly to keep her still, and even consents to having her own head against the rest, when told it is necessary to get a good picture of dolly. We will show dolly this little singing bird, and our shy little miss has a good picture without her knowledge or suspicion. It is not often necessary to resort to as much strategy as in this case, but I have found it well always to keep the child's attention as much as possible away from what you are doing; say nothing about taking its picture.

"What do you do when they won't have their picture taken? Here's one says she won't."

Well she's probably been told about it over and over, and in the mean time, perhaps, has been to the dentist, or been frightened somewhere. She seems a sweet little girl, and not much afraid. I think I can soon get acquainted with her. I take her

in my arms, and carry her about the room, show her the pictures, and playthings, with kind words, and a few kisses, and now I think we may try a sitting. No, she won't sit. No amount of coaxing or persuasion will avail. She is good enough anywhere else but near that chair. Her mother gets out of patience and threatens to whip her. Now this will never do, and the mother must be given to understand, that threats or abuse will render it impossible for us ever to get a picture of her child. I can readily understand the style of treatment that child has at home, and what is the principle of government for the household. If we allow it to be practised here, this place will have as much terror for the little one as, no doubt, many others have.

Love and kindness must rule the baby here; compulsion is entirely out of the question, for even if the child should be compelled through fear, to sit, we can readily imagine what kind of an expression such a state of mind would produce. No, if the child will not sit willingly, we must decline any further attempts at this time. We want her to go away with pleasant recollections of this place, and next week if she comes again to see our birdies, and all the pretty things we have, saying nothing about the picture, I have no doubt we shall succeed without difficulty.

The next is a wide-awake youngster that don't care for anything. Now this type is generally as difficult to manage as any we have. He can only be kept in place in the chair by holding him, and he seems ready to explode at every noise or motion you make. Now there are two ways of fixing the attention of this kind—by keeping perfectly quiet, he watches for a few seconds, apparently waiting for something to turn up, and you can catch an impression; again, you may astonish him by the most violent demonstrations, bringing out your whole collection of birds and animals, and turning clown yourself.

"But I didn't know there was such a variety of babies. I tho't they were all alike."

O no, Focus, there is just as much difference in babies as there is in anybody; and finding such a variety we will not have time to go into details with them all, but will

note some of the more prominent peculiarities. Those that we have no trouble with we need not dwell upon; but it is the difficult ones, or impossibles, that I want you to practice on. Now here is the baby only four weeks old, that don't take notice of anything, and you are expected to make a brilliant, wide-awake picture of it. Another, its mother says, is afraid of strangers, and won't let you come near it. She has no faculty for arranging its position or doing anything with it, so you must catch it as you can, arms and legs flying, making a perfect caricature on your idea of grace and propriety.

This one wants three different sizes and styles of pictures, and when it comes to the trial we can't get anything.

The next they want taken with the great red, freckled-faced nurse, because they think it would take better that way.

Here's one just can walk; they want it standing. It won't stand still; it don't stay a moment where you put it. They don't want it sitting; its grandmother wants it standing, and if they cannot get it that way they don't want it. They've had it taken a great many times before, and never had any trouble. The only way is to prove to them by trying that the thing cannot be done, and then they may have it sitting, as it has always been done before.

A youngster in a black velvet suit, the blackest of all black things to photograph.

"Why! I always thought black took best."

It does in some cases, but not for a child four years old, when it is often difficult to keep it still long enough for light drapery.

Some measures ought to be taken to educate people in this direction, so they may not presume so much, but proceed from a knowledge of the facts in the case. We should lose no opportunity to impress upon customers the fact that light drapery is always best for children.

A group of three children, from three to seven years old. Their mother wants them all standing side by side; thinks they would take better that way, as she "intends to send the picture to Europe; she wants it taken good."

Now, when people come with such notions

as these, we must try and persuade them out of them.

Three children standing in a row!

I don't want to make any such picture, much less to have it go to Europe as a specimen of American photography. By showing the mother the absurdity of such an arrangement, she is willing to leave it entirely with us.

They may be grouped around a table, two standing and one sitting, or but one standing; or they may be all sitting; let the oldest be in the middle, and the others seated lower on each side, so as to give a good form to the group. It is well to group children with books or toys, as though they were doing something. Nothing is prettier than to put them on the floor among their playthings, with as little formality or order as possible.

Our next lesson, Focus, I think I will devote to groups.

Photographs of the Protuberances on the Sun without an Eclipse.

ON Thursday, September 29th, Prof. C. A. Young, of Dartmouth College, assisted by Mr. H. O. Bly, photographer at Hanover, N. H., succeeded in making photographs of the "flames" or protuberances on the sun. And we are indebted to those gentlemen for prints from the negatives, and the details which follow of this most interesting and invaluable accomplishment. But a year ago, the idea of the possibility of such a performance was barely entertained or credited, and now, by one of our own men of science, it has been done. With many thanks to the gentlemen named, we quote what they say.

"The arrangement of apparatus by which the photographs of the solar 'flames' or protuberances were obtained, were as follows:

"A spectroscope of peculiar construction and great dispersive power, was attached to the eye-end of the equatorial telescope of 6 $\frac{1}{2}$ inches aperture, and about 9 feet focal length, belonging to Dartmouth College.

"The eye-piece being taken out of the telescope, its object-glass forms an image of

the sun, about one inch in diameter, upon the slit of the spectroscope. Directing the telescope in such a manner that the edge of this image falls very near and tangent to the slit, an observer looking into the eye-piece of the spectroscope, will probably see, if the instrument be properly adjusted, what looks like a bright sunset cloud seen through a nearly closed door; this is the 'flame' or protuberance.

"To obtain a photograph, the eye-piece of the spectroscope was slightly drawn out, and fitted with an extemporized camera, merely a wooden tube 6 inches long and $1\frac{1}{4}$ inches in diameter, carrying at its upper end a light frame in which was placed the shield, containing for a sensitive plate a little slip of glass, such as is used for microscopic slides. The eye-piece of the spectroscope acted as the lens to the camera, throwing an image upon the plate.

"The telescope was driven by clock-work, in such a manner as to keep the object, once adjusted, exactly upon the slit (at least it ought to have done so), during the whole exposure, which lasted from three and a half to five minutes, according to circumstances.

"Ordinary portrait collodion was used. There was no time to prepare something more sensitive, as the equatorial was just on the point of being dismounted, in order to be sent off with the Eclipse Expedition to Spain.

"The negatives are of little value as pictures, since a perceptible maladjustment of the axis of the instrument and the unsteadiness of the air caused, during the long exposure, so much shifting of the image on the plate as to destroy the definition of details, but the success obtained was sufficient to prove that, with proper and attainable means, and the necessary precautions, photographs can be made as satisfactory as those obtained during an eclipse of the sun."

STOPPING DEVELOPMENT.

BY JOHN M. BLAKE.

IF we attempt to stop development on a fully exposed plate, before it has reached its full intensity, streaks and stains will be sure to form if we do not pour on an abundance of water, and keep the plate wholly

covered until the oily appearance of the film has nearly disappeared, and there is no longer any difficulty in keeping the film covered with a small quantity of water.

In photographing landscapes, it is often of the first importance to carry as little weight of material as possible, and the necessary supply of water adds greatly to the load. The appearance of the plate spoken of is caused by the difficulty with which pure water mixes with a solution containing alcohol. The remedy is simple. If an equal amount of alcohol is added to the wash-water to that contained in the developer, one-quarter drachm per ounce or more, then with practice and care, one ounce can be made to go as far as a pint of ordinary water, for the purpose indicated. The "crawling" of the developer, or of the wash water, will be *increased by adding too much alcohol*. Where the use of gelatine in acetic acid is indicated, as in copying drawings, the developer flows over the plate without a break, though no alcohol is added. In this case alcohol is not required in the wash-water.

I had devised this expedient for landscape photography before the publication of Robinson's method with golden syrup. There are some difficulties with the latter that make it well to combine the two methods. First, if the plate has had a full exposure, it is impossible to cover its whole surface at once with the preservative, and thus stop development on all parts alike, and stains result unless we dash it over the plate, and thus use more bulk of it than we would have to of the water and alcohol mixture, on account of the viscid nature of the syrup; even if it contains its proper proportion of alcohol. There is a second difficulty; many samples of commercial molasses, perhaps all, contain chlorides. In two samples this was so much the case, that a curdy precipitate of chloride of silver was formed when it was poured on the film, and this remained in part, firmly adherent, and became discolored by diffused light, and left numerous dark spots after fixing. The best plan, under the circumstances, seemed to be to first wash off the developer with the alcohol and water, then to flow on the syrup mixture, when no curds formed, since the silver had

been washed off. Then "golden syrup" was useful to keep the plate moist until an abundance of water could be obtained for fixing, and but a small quantity of the syrup was required.

A HOLDER FOR DEVELOPMENT AND REDEVELOPMENT.

BY M. CAREY LEA.

VARIOUS forms of holder have been proposed, for supporting the plate during its development and redevelopment, where this last is required, in order to save the hands from the silver stains, which are apt to be caused. None of those that have come in my way, have proved satisfactory. Pneumatic holders are not altogether safe. I have used them both in the form with handle and without, and though they generally held the plate pretty well, especially if the precaution be taken to keep them well wet, still accidents will once in a while happen, and these are very disagreeable. Another form, which I imported from England some years ago, in which the plate was held between two guides, acted upon by a coiled spring, proved altogether useless.

About a year ago, an idea occurred to me, which Mr. Zentmayer carried into execution for me, and which has proved after very thorough trial, to be free from all objection. The cut will give a clear idea of it. A brass rod, just stout enough to have the necessary stiffness without being heavy, is inserted into a wooden handle, also another similar piece, much shorter. Each of these carries an arm about three inches long, the upper part of brass, but the lower half of solid silver. At the bottom this silver piece is bent short at right angles. The two arms are connected by a rod passing through both. In one, it simply turns round, in the other hole there is a screw-thread cut, with a corresponding thread on the rod. This last has at its right-hand end, a mill-head. It is evident that by turning this mill-head the arms are made to approach or separate.



The space between the arms is such as to correspond with the size of the plate most frequently used. A holder can, however, be used for two sizes of plates, taking the larger size by its breadth, and the smaller by its length, as the construction admits of a certain degree of play. Thus, the writer's takes a $6\frac{1}{2}$ by $8\frac{1}{2}$ plate the long way, and an 8 by 10 the short way, there being but half an inch difference.

From the form given to this instrument, the plate is secured absolutely. It cannot get out until the screw is loosened, and may be raised to the light in a perpendicular position with absolute safety. Nor have I ever had a film injured, or a plate broken by the pressure.

Another advantage of this holder, and in my opinion, no small one, is, that if one prefers, as I do, to use a bath if one wishes to redevelop with pyrogallie acid and silver, the plate can be plunged into the redeveloping bath without getting the fingers into the mixture. It can be lifted out any number of times for examination and returned to the bath again, thus completely saving the fingers from the most disagreeable source of staining.

In working the collodio-bromide dry process, this instrument eliminates the principal source of silver stains. In that process the alkaline development gives in nine cases out of ten, all the density that is needed. But if a material mistake has been made in exposure, or if the development has been stopped by mistake too soon, so that the density is insufficient; in these rare cases a silver redevelopment may become necessary, and then this holder comes into play, and enables one completely to save the fingers.

A firmer grip of the holder is obtained by partly squaring the round handle, which could not be very clearly shown in the figure.

ON KEEPING SENSITIZED PAPER FROM DISCOLORING.

BY JEX BARDWELL.

THERE is a great deal being said in the transatlantic journals about washed paper, paper that will keep in its sensitized condi-

tion for longer or less time. I give you a formula that I find will keep the paper I use, for three or four days in perfect condition, without washing or the trouble of fuming pads or paper.

SILVER BATH.

Nitrate of Silver, . . . 480 grains.
Water, 16 ounces.

Dissolve, and add a few drops of concentrated aqua ammonia, and then add

Nitrate of Ammonia, . . . 1 ounce.

For giving pure whites and many other excellent qualities, I recommend the E. A. paper.

This paper is floated on the silver solution for one minute; it is then drawn over the sharp edge of the dish, for the purpose of removing all the surface solution, and laid face downward on a quire of common paper, such as is used for printing newspapers, then lay a couple of sheets of the same paper on the top of the sensitized sheet, and press backward and forwards with your hand, until all the solution is taken up by the paper on which it is laid, remove the upper sheets and hang the paper up to dry; serving the next sheet of sensitized paper the same way, and on the same paper as the first was laid, which need not be renewed for at least a dozen or more sheets of silvered paper. The drawing the paper over the edge of the dish, leaves the paper comparatively free from solution. Paper of the kind mentioned above, will keep three days in the hottest weather. The silver solution is weak, and there is no waste of dripping. The next time you silver you remove a sheet or two of them, and put among the cuttings. After returning the silver solution to the bottle, I take one of those sheets of blotting-paper to wipe out the dish. The paper thus prepared will give any tone up to a pure black, and with all the required brilliancy.

IMPURE ACETIC ACID.

BY J. C. BROWNE.

It is absolutely necessary that the chemicals used in photography should be pure and uncontaminated with foreign substances, for if such is not the case, serious difficulties

will certainly occur, causing an unlimited amount of failures and loss of valuable time. The purity of photographic chemicals is of such vital importance to the advancement of our art, that it becomes the duty of every one who can throw any light upon the subject of impurities to add their mite for general information.

Acetic acid as a retarding agent in the developer is one of the most generally used chemicals in photography, and ought to be of uniform strength and purity; such, however, has not been my experience in its use upon all occasions.

A few weeks ago, during a visit to the sea-shore, for the purpose of making instantaneous negatives, my attention was called and my temper ruffled by the curious actions (or rather want of action) of the iron developer. Before starting I had prepared this solution according to my usual formula for instantaneous work, viz.:

Protosulphate of Iron, . . . 20 grains.
Water, 1 ounce.
Acetic Acid No. 8, . . . 2 drachms.

The iron was dissolved in the water, and the acetic acid added, which produced a slight precipitate that I was unable to filter off. This action was unusual, and not to be accounted for. However, my time for the preparation of chemicals being limited, I was obliged to leave home without any further examination of this solution until I arrived at my destination. A dark-room was soon extemporized and operations commenced. The first plate was exposed with a drop, using the full opening of the lens, on a schooner, with a foreground of heavy surf beating on the shore. On development, much to my surprise, not the slightest image could be detected on the plate. Several time exposures were then given with the same result exactly. Many times in my early photographic experience I have developed *very weak* negatives, but never before failed to obtain some image on the collodion film. To test the condition of my bath and collodion, a negative was exposed some seconds and developed with a solution of ammonio-sulphate of iron, which gave a good, clear, forcible picture. The ordinary iron developing solution was there-

fore clearly to blame for my failure to obtain some impression of the image. Upon the application of the developing solution to the plate I noticed a precipitate thrown down, but it was impossible to say what it was at that time, so the consideration of the subject was deferred. Through the kindness of a photographer residing near by I was enabled to get a supply of pure developing solution, which gave no further trouble. On my return home, and having the conveniences of a laboratory and suitable reagents, I was enabled to pronounce the impurity in the acetic acid to be phosphoric acid. But how that chemical should have appeared in my bottle of acid was not easily answered.

Wishing to satisfy my curiosity further upon the subject, I inquired at the store from which I had purchased the solution, if they had received any complaints of their acetic acid No. 8? Yes, was the answer. "Our attention was first called to it by a photographer who could not develop his plates with our acid, and upon examination the impurity proved to be phosphate of lime." It seems that the manufacturers of this particular sample of acetic acid had carelessly filtered it through animal charcoal (burned bones), to remove traces of organic coloring matter in the solution. By so doing phosphate of lime was dissolved and carried through the filter along with the acid and in combination with it. The secret of all my annoyance was then as clear as possible. The precipitate in the iron solution, on the addition of acetic acid, was phosphate of iron, and the decomposition on the excited plate was phosphate of silver.

It is proper to state that the druggist from whom I purchased the acid, at once gave orders for a new supply, and warned their clerks not to sell acetic acid No. 8 to photographers until it had been tested.

One of the best tests for the presence of phosphoric acid in acetic acid, is the addition of a few drops of nitrate of silver. If phosphoric acid is present a copious white precipitate will take place.

For some time I have used a somewhat different grade of acetic acid, known as U. S. P. acid, containing 36 per cent. mono-

hydrated acid. Acetic acid No. 8 is 30 per cent. I have never found any photographic impurity existing in this article, and have reason to believe that it is more reliable than the other. Being *one-fifth stronger*, allowance must be made when preparing the developing solution.

Rembrandt and "Rembrandts."

BY GEORGE B. AYRES.

WITH something of the disinclination with which we acknowledge the "immortality" of Erostratus, do we regard the present resuscitation of the name of the famous Rembrandt. Not that we would place the incendiary of the Ephesian temple upon a level with the prince of shadows; but that, since the photographic art seems determined to christen its latest born with the name of a great painter, we almost regret that the choice should happen, from necessity, to fall upon the ignoble rather than the divine.

Had we sought a godfather in Raphael, we would have found him among the incomparable cartoons of the Vatican; or Titian, engaged in delineating portraits of emperors and the nobility; or Vandyke, among the beauty and learning of the Court of England; but Rembrandt was "at home" only in the alehouse or the brewery! The angelic designs, the nobleness and refinement of those first mentioned find no counterpart in the grovelling Rembrandt, whose "madonnas" were the barmaids, and whose "saints" were his coarse associates, the boors.

We repeat, therefore, that however apt the photographic process can be arranged to *imitate* the characteristics of this great painter, it is almost a matter of regret that we are made the innocent worshippers at an ignoble shrine; and to honor one whose instincts were base and vulgar, whilst we leave "unhonored and unsung" upon the historic tablet the names of those whose genius was god-like and whose lives were sublime.

REMBRANDT VAN RYN (Rhine)—otherwise PAUL GERRITZ,—was a Dutch painter of 1606-69, whose first impression of extreme light and shade were doubtless re-

ceived from his early instructors, but which he continued to practice and perfect until this one feature became the distinguishing characteristic of his works. For want of a better place he fitted up as a studio the loft of his father's mill, where the light was admitted by only a very small window—a mere hole for ventilation. In this dismal place he had opportunity to study those powerful contrasts of light and shadow, which subsequently rendered him the great master of *chiaro-oscuro*. He became a painter of great renown, and his works are eminent among those of all time; but he was sadly devoid of any noble aspirations, never mingled in polite society, had no ambition beyond the gratification of his vulgar habits, and died in comparative poverty.

As a painter, his manner depends almost wholly upon the achievement of the single element already mentioned, though his coloring was also good. True to his instincts, he considered the imitation of vulgar nature preferable to the cultivation of ideal beauty, paid little regard to propriety in costumes and accessories—rather gloried in forms of female ugliness and masculine deformity—and restrained his natural tendency for incongruities only in his portraits. His works, as a whole, comprise subjects of baseness or severity of design; and the intelligent seeker after what is pure and beautiful will most likely be offended with Rembrandt; though he will not fail to discover, at the same time, evidences of most consummate genius.

The appropriation of the *name* of this painter, unqualified, to designate a style of *photograph*, we consider to be not only a positive mistake, but a senseless innovation—a ridiculous blunder! The term "Rembrandt," which for two centuries has been used in the art-world to designate *only* the productions of *his* brush and burin (for he also practiced Etching), CANNOT be applied with the least degree of correctness to a photograph—a kind of picture too of which Rembrandt himself had not the most remote conception!

Mr. Kurtz referred to his first efforts as follows: "These pictures were called rather 'Rembrandt-ish'—not 'Rembrandts'—and were never so baptized by me. I modestly

called them 'shadow effects.'" So also Mr. Baker, with commendable regard for the *propriety* of things, designates his illustration in the July number, "Shadow Picture,"—*of course*, and no one possessing a correct knowledge of the use of art-terms would do anything else!

But the most insuperable objection to the use of the *name* is that it falls meaningless and dead on the ear of the hearer—even among so-called "intelligent" persons, conveying *no idea* whatever of a person, place, or thing. Not one in a thousand who come to a photograph gallery ever heard of Rembrandt, and consequently the word is *meaningless* to them, even though it be accepted and used; and we are not in the least surprised to read the instances mentioned by "An Old Foggy" in our August number.

Now suppose, instead of the Dutch Rembrandt, it had been the Italian painter *Caracci*; and you say to a customer, "Will you sit for a *Ka-rock-chee*?" is it likely he would understand whether you were addressing him in Choctaw or Hottentot? And yet it is equally as *proper* as the more easily pronounced "Rembrandt," and would be just about as *comprehensible* to people in general.

Hence, whilst we glory in this beautiful addition to our catalogue of styles, we do earnestly *protest* against filching from the sphere of legitimate art, one of its most conspicuous names, in order to designate a new-born picture with a pretentious title! A thing that is Rembrandt-ish is not by any means *a Rembrandt*; the latter belongs specifically to the works of the immortal master himself, and it is only affectation to try to "rob him of that which not enriches us, but makes him poor indeed."

So much for the *man* and his *name*. In regard to the present imitation of his *style*, we think, on the whole, much good will accrue from its adoption. To be sure, the miserable attempts at, and the misconceptions of the true character of Rembrandt's style which have been thrust upon the public (and which "Old Foggy" shows up at length) are to be regretted; but should not be used as condemnatory of a method which, in competent hands, is susceptible of wonderfully beautiful results. The difficulty lies entirely with the photographers them-

selves; they perhaps fail to comprehend the true resources of light and shadow—forgetting that it is as necessary to *study* as it is to manipulate. It is impossible to suppose that a background based on black! would ever have occurred to Rembrandt, as he *always* carried *transparency* into his deepest shadows. The worst deficiency, however, exists in the impossibility of subduing the dead-whiteness of linen draperies on the shadowed side.* Such an inconsistency in *chiaro-oscuro* is a poor compliment to Rembrandt, or any other painter; and though Mr. Kurtz has almost perfected this peculiar style of lighting, *he* nevertheless admits and laments this patent imperfection.

Doubtless the most important gain realized by this new-style photograph, will be to crush out the old prejudices against shadows. Every provincial operator has wept over the unappreciative rustics who insist on having their faces taken like the full moon!—square to front and in complete light—whilst others refuse a three-quarter head because it is “too black on one side!” But now the dose is an old allopathic one; they rather like the novelty of the style, but *must* swallow down seven-eighths shadow or get no picture!

The Cleveland Exhibition proved the acceptability and popularity of the *SHADOW PICTURE*; and now, dear reader, it remains for you to determine whether *you* will enlist on the side of propriety, and use a term which your customers will *understand*; or whether you will continue the improper, meaningless, ill-timed, unauthoritative, incomprehensible, un-American, inappropriate term, “Rembrandt.”

CHEMICAL RETOUCHING.

BY DAVID DUNCAN.

THE idea offered by M. Carey Lea, Esq., in the October number of the *Philadelphia Photographer* for this year, concerning the manipulation of negatives, is one deserving attention by all engaged in our profession. I experimented in the same direction at least six months back, but did not then suc-

ceed with any method which was to me satisfactory, for the following reasons:

1st. Collodio-chloride was troublesome, and entailed the necessity of first coating the negative with thick albumen, otherwise the collodion film would slip off. The operations succeeding the printing, viz., washing, toning, fixing, etc., were not advantageous to the negative itself, no matter how thickly varnished.

2d. Bichromate of potash and gelatine took too long to dry to render that “modus operandi” commercially available.

3d. Gum arabic and the bichromate salt is a complete failure, as the whole will wash off after printing, unless, of course, the plate is coated with a thick substratum of gelatine or albumen.

The methods therefore suggested by the above gentleman are impracticable, *i. e.*, for ordinary operations, where speed is the order of the day. I have a method to offer, simple, expeditious, and under control, as follows: After the negative is fixed and washed, flow with a thick solution of albumen, say:

Albumen.	.	.	.	.	1 ounce,
Water,	.	.	.	.	4 “

and dry. When dry, coat with iodized collodion, sensitize in the bath, and to expose, put the plate in the dark slide, or plate-holder reversed, the film uppermost. Place four small pieces of glass at each corner, and gently lay on the pieces of glass a plate the same size as the negative, which will preserve the sensitive film from injury; close the door and expose a few seconds, by drawing out the slide, in the light. It will be understood, of course, that the sensitive film is on the collodion side of the negative, not on the glass, so that a transparency is printed in close contact. After exposure, develop with the ordinary developer, wash, fix, dry, varnish, and the whole is complete. The transparency on the negative will not need intensifying, and will rarely be too dense by the application of the developer alone; the intensity however can be reduced by cyanide of potassium.

Now the advantages of the idea, no matter how carried out, are manifold. Freckles are softened, if not obliterated; scratches

* That is, *legitimately*, under the skylight—not by any “dodge” of printing or retouching.

and pinholes are mollified, if not "stopped out;" "heavy blacks" are toned down, and shadows softened; the faintest detail in the shadows which otherwise would be lost in printing is increased, preserved, and harmony pervades the whole picture instead of a chalky, freckly, spotty, undertimed thing. All undertimed negatives, or those with heavy shadows and dense high lights, can be made, by the above method, to yield passable prints; but remember, O, courteous reader, that experience must be acquired ere you meet with unequivocal success.

PHOTOGRAPHIC EXHIBITIONS.

WHILE we write, in connection with other articles, very fine displays of photographs are on exhibition at New York, Cincinnati, St. Louis, and some, we believe, at Baltimore. We are indebted for the reports of these exhibitions given below, to a friend in St. Louis; to D. K. Cady, Esq., of the firm of P. Smith & Co., Cincinnati, the best known stockdealers in the West, and to Professor Towler. We paid a special visit to New York, to see the exhibition there, but Professor Towler had been there before us, with his note-book, so we give way to him, inasmuch as he has age on his side. He writes as follows:

EXHIBITION OF PHOTOGRAPHS AT THE AMERICAN INSTITUTE FAIR, N. Y.

"Considering the population of the city of New York, the number of photographs exhibited was much less than I had reason to expect; and I must here confess my dissatisfaction with the mode of hanging up photographs and works of art at such exhibitions; for it is almost impossible to obtain a good view of a single picture, from the fact that the philosophy of light is ignored in giving each print its position. It is possible, that by gaslight the exhibition may be much improved; by daylight it is quite defective, and it is by daylight that I do all my work; hence the disadvantage I labor under. The same trouble existed at the Boston and the Cleveland Exhibitions; but it is to be hoped in future some genius may arise from among the fraternity capable of posing side screens and walls at our next exhibitions in such a way as to remedy

the evil of bad illumination and imperfect reflections.

Kurtz had a very respectable collection of colored porcelain pictures, a branch of art-photography in which he has always excelled. Some photographs, retouched with India-ink, as large as 25 x 32, were exceedingly beautiful. He exhibited also a number of Rembrandts, crayon drawings, and negative vignettes (why so called?)

Gurney's pictures of Edwin Booth and wife were very successful in pose and workmanship. His Rembrandt pictures were good.

Most of those who visited Cleveland last June, will recollect a quantity of pictures that came in late, and were placed on a side wall just behind the Messrs. Anthony's stand; these, though late, it will be recollected, were amongst the best pictures of the Exhibition; they were the work of William R. Howell. His pictures at the Fair were also beautifully soft and elegant in pose; the photographic manipulation was very good. Howell, too, goes into the so-called Rembrandt, which seems to consist in posterior illumination, and thus throwing the front, or the side next to the camera into shade. This is a freak that must soon succumb to better taste; still it is a change, and has its advantages financially. I tried to study out the rationale of the success of the productions of such masters in the art as Kurtz, Howell, and others, and after a careful investigation I have come to the conclusion, that the cause depends upon their possessing a true and complete knowledge of light and an inherent taste for the beautiful and artistic. They know how to apply their light, to soften it, intensify it, in fact to control it in any way, so as to gain their ends; and they furthermore know how to make nature *natural*, whilst at the same time they can discriminate the conditions that will give to a given nature the largest amount of beauty and comeliness.

Mr. Williamson, of Brooklyn, exhibited a number of miniatures neatly colored.

Our friend Bogardus was as well represented at the Fair, as any one, any way to an equal amount; for, although not present *propria persona*, there was a portrait of him so life-like, so endowed with smiles and

good nature, that it was a short time before I became convinced of the limner's freak. Examine the hand of this portrait—anatomically considered, it looks like flesh and blood, and it simulates nature so perfectly that I felt half inclined to shake it. It is scarcely necessary to say that the rest of the pictures were equally good.

Mr. P. F. Weil, 643 Broadway, had on exhibition a quantity of stereographs, and S. A. Thomas, Sixth Avenue, a number of porcelain pictures and card pictures; it is to be hoped these gentlemen will meet us in Philadelphia next June; we are glad to see their productions and hope to become better acquainted with them.

The pictures, portraits, views and copies, exhibited by Wilson, Hood & Co., and taken with the Steinheil lens, show the powers of this lens; they were exceedingly good, and can scarcely be surpassed, if even equalled. Mr. W. H. Rhoads was the photographer.

Since we last had the pleasure of seeing our friend Charles Bierstadt, of Niagara Falls, he has been to see Brigham Young, San Francisco, and the Yo Semite Valley, all which he has stereographed to perfection. His collection of stereographs at the Fair is decidedly the largest and the best; and near by we find a number of excellent prints by the Albert-type process, from the atelier of Albert himself, Munich; these prints are exhibited by E. Bierstadt. As I have just remarked, these impressions are excellent; and yet after all, the prints obtained by the Woodbury process seem to have more vigor, or capable of more vigorous contrast than these. We are anxious to see the Woodbury process carried out in this country to the extent which it is capable.

The stereographs and views by J. Loeffler, Tomkinsville, Staten Island, give promise of success; they are very respectably done.

Rockwood & Co., 845 Broadway, exhibit a number of large retouched and colored photographs; photographs of engines, Rembrandt pictures, and particularly cloud-scenes, by double printing, I presume, all of which are good.

Near to the end of the list we come upon a goodly collection of good *plain* photographs by Henry Merz; the work does Mr. Merz credit.

J. O'Neil, 949 Broadway, has on exhibition a number of photographs at the Fair, the prints are of the Rembrandt style, retouched, and good.

The large views by R. Horton, 287 Third Avenue, are clear and good; and particularly successful are the copies of original paintings by Oscar Alexander, 654 Second Avenue.

The two firms, the Scovill Manufacturing Co. and E. & H. T. Anthony & Co., were well represented at the Fair by the excellent photographic stock which these two stock houses always keep.

After the Fair, I visited several photographic establishments in New York, Albany, Syracuse, Rochester, and smaller cities, and find that everywhere retouching is the order of the day. I am sorry, however, to discover a degeneracy in pure photography by reason of this aping after art. There seems to have crept into numerous studios a degree of carelessness which deserves to be severely condemned; the proprietors rely too much on retouching, and less on the efficacy of light and correct manipulation. In several galleries the retouching was performed in the following manner:

The negative is varnished as usual, but in addition the back of the negative is also varnished, or at least that part of it which is to undergo any retouching. When dry and hard, this part is rubbed over with very fine pumice-powder, or the powder of cuttle-fish, which gives the surface a *tooth*, as it is technically called.

The next operation is to work in the high lights by means of a stump and crayon powder (black square crayon). We have frequently availed ourselves of a similar process to this, and have on hand old negatives that testify to this fact; but the retouching we worked in with India-ink or gamboge, and not with crayon. The crayon process with the stump is much superior, and the artist who first discovered this advantage deserves much credit. The process is easy and reliable as far as it goes, and one beauty is the following: it does not destroy the likeness with *careful* manipulation. It is easy, however, if careless, to give rotundity to parts that are naturally flat or even hollow, because of the facility of communicating

crayon powder to any part you like, and to any amount. We were informed by the proprietors of some of the rooms we visited, that this process had been patented; if this be so, you will have to get permission to use it from the patentee, whoever he may be. I doubt, however, whether such a process can be patented."

At St. Louis, the photographers are full of the spirit of the National Photographic Association, and believe in exhibiting their work to the public. We have the following report from them:

THE ST. LOUIS FAIR.

ST. LOUIS, Mo., October 10th, 1870.

DEAR EDITOR: Permit me to photograph to your mind's eye, a few notes about the display of photographs and things appertaining to the same, at the recent great Fair in St. Louis, Mo., that has just terminated. I am sorry you could not make it convenient to pay our growing city (of over 300,000 by late census) a visit during our yearly Fair, if it was but to see our great amphitheatre with its 100,000 visitors in it at one time. I can assure you the photographers of St. Louis would have tendered you the hand of fellowship and a hearty welcome to the West; you Eastern people have no real idea of the West or its people until you visit it and them, and then you generally come to the conclusion we are somebody.

But to the photographic display, it was creditable to those who exhibited, but it was not what I had expected; only nine exhibitors, out of about fifty galleries in this city.

It seems to me that most part of the present generation of photographers have not the ambition they ought to have for the welfare of the profession; they gain their living by self, and the almighty dollar is the greatest trait in most of their characters; nothing for art, elevation, and advancement, for futurity. "Can't spare the time," says one; "It costs something to make a show," says another; "What good does it do?" says a short-sighted, narrow-minded, would-be artist; and so it is with endless excuses, even from those that were expected to set an example to younger heads at the busi-

ness. First was A. Wolfrom's collection, consisting of a fine display of cards, imperials, and 4-4s of the Rembrandt style, and the good old style that Rembrandt can't lay in the shade. Next in order was J. A. Scholten's collection, which was the largest and showiest in the Fair. It seemed as if he had transported his gallery to the Fair-ground, for he not only had pictures and frames of all sizes and styles, but cases in variety, and show cases also; his large crayon heads worked up by Ruburka were very fine. All his plain work was very finely retouched; too much so, I think, for general photograph work; in fact, they lose their identity almost as photographs, and become the work of an artist and not the work of a photographer; they looked (most of his work) like fine engravings; they were fine, very fine, only too much so, for photography. His collection of Rembrandts was superior, in the lighting, especially; but had the same fault of almost all of his work—too much worked up by an artist. He also had on exhibition a fine collection of burnt-in porcelains. Next to Scholten was R. Benecke, the worthy Secretary of the Photographic Society of St. Louis. He had a superior collection of views, and a panoramic view of St. Louis, besides some fine stereoscopic views, and a few 4-4 or 8 x 10 heads. Adjoining this display, was Boehl & Koenig, consisting principally of large views and stereoscope pictures, beautifully colored and tinted; also, some cards and imperials. Opposite to these were R. Goebel's, principally 8 x 10, very fine, clear distinct pictures, and showed they were the work of a good photographer. The tones were, what I consider, just right; no fancy toning, that the photographers of the day are running wild after. These pictures did not hang in as favorable a position as others, and were not noticed as much by the public. On the other side again, we see the large and fine display of Cramer & Gross, life-size in oil, cabinet, India-ink, large groups, imperials, cards, and Rembrandts, the predominant styles of these artists' pictures, but not worked to death, as some others are. This firm may well be proud of their display, as it was much admired. Alongside of those was the collection of Max Saetele, consisting of photo-

graphs in oil, cabinets, retouched, cards, Rembrandts, and a variety of 4-4 pictures. The collection was very creditable.

Next and last was the old veteran of the art in St. Louis, J. H. Fitzgibbon; he had a very fine display of all styles, among which were some beautiful mezzotints, phunnygraphs, and night pictures, specialties by this artist alone; also a novelty in the way of a dress photograph of a lady, some three feet in length; the head, arms, and hands of a cabinet picture being used, and the balance in dry goods very neatly and handsomely dressed, and was much admired by the ladies, and gentlemen also. One other I must not omit to mention, and that is Easterly, the Daguerreian, as he is called; although not properly a photographer, he has forgot more about pictures than many of them will ever know. One of the old-style picture-men; never would change, but expecting Daguerreotypy to come back again, he will die with his harness on, rather, he never will quit his first love—the Daguerreotype. He had a fine collection of pictures, some of them over twenty years old, as good as the day they were taken, and would put to shame many of the so-called fine pictures of the present day.

In conclusion, Mr. Editor, I would remark that the St. Louis Photographic Society made a request of the Fair Association, that no premium be given for any pictures taken by the aid of the camera this year; which request was granted. I think the move was a bad one, although it was done to allay jealousy on account of influence that was said to be brought to bear, in previous years, on the judges, in awarding premiums. I think there is nothing like competition, and to make that competition stimulating, some reward should be offered for work that excels, or new styles. I think if the photographers would put their heads together, they might put guards around this thing of *favoritism* in the judgment of work; forget self for once, and go in for the general good, invite competition from abroad, see that premiums are not offered for useless displays, showy frames, big signs, large numbers, but work made by their *own hands* and assistants, and not by regular paid artists; take away the *artistical paid work* and labor

from the many fairs and exhibitions, what a falling off there would be in prizes, medals, puffs, notices, etc., and how many *great artists* in photography would be coming down to their own level of poor brother photographers. These are some of the views not taken with a camera obscura.

From your friend,
JUSTICE.

From Cincinnati the report is brief, but speaks much, and thousands and tens of thousands of the public, whom we are trying to educate (*you* and we are), were given a sight at the wonderful strides and reaches of photography. We will let Mr. Cady speak for himself:

PHOTOGRAPHY AT THE CINCINNATI INDUSTRIAL EXPOSITION.

THE great Industrial Exposition now being held in this city is a grand success, and exceeds the most sanguine expectations of its originators. An idea of its magnitude may be formed from the fact that there are over seventeen hundred exhibitors, and that the immense building, with wings attached, covers an area of more than three acres. The Fine Art Hall is a prominent feature, and is constantly thronged with admiring visitors. Our city photographers deserve a great deal of credit for the really handsome display which they make. With no intention of competing for premiums, but simply with a desire to render the Exhibition attractive, and perhaps to advertise their business by their work, they have formed a gallery of good photographs, which reflects credit upon the art.

Charles Waldack exhibits about twenty large views of country residences, different sections of the bridge over the Ohio River at Louisville, machinery, monuments, etc. Mr. Waldack makes a specialty of landscape photography and out-door work in general, and perhaps for this reason, as suggested by Brother Bendann, we can account for the established reputation which Mr. Waldack enjoys in this much-neglected department of photography. Mr. W. is a gentleman of culture and keeps well posted in the current literature of the profession, and it is a pity that he cannot be induced to contribute oftener to the photographic jour-

nals the results of his experience and observation.

Messrs. Leon Van Loo, Vincent Bros., W. S. Porter, and James Landy, contribute photographs of all sizes, from card to full-length life size, porcelains, Rembrandts, water and oil colored work, &c. The Rembrandts are the favorite style with us, and we have not seen such fine effects of light and shade as are produced by our Cincinnati artists. What a wonderful advance has been made in photography within a few years. We do not notice this so much in the chemical manipulations as we do in the artistic management of the light, the retouching of the negatives, the graceful and easy flowing lines of the drapery, and the taste and skill displayed in the posing of subjects. If you will only reserve space enough for us at the Philadelphia Exhibition, we will make a display of Western work that will both delight and astonish you.

May we be there to see.

Yours,

D. K. CADY.

PHOTOGRAPHY IN BALTIMORE.

WE recently made a flying visit to Baltimore, where we have a whole nest of subscribers. We had not the time to call upon them all, though we saw the work of a great many at the doors, and saw some of the photographers in person.

Messrs. Bendann Brothers, Stanton & Butler, Bussey, Holyland and Pollock, all seem to be prospering, and making some excellent work. There are besides them, Messrs. S. Field, Bacharach, Baumgarten, Cooke, Cover, Cox & Ward, Crowther, Fowx, Hampe, Hohlweg, Knowlton, Leach & Edkins, Leach, Moltz, Perkins, Phillips, Pope, Schaffer, Shorey, Skinner, Speddin, Stohm, Toesch, Varley, Wellip, Walzl, Wheedan & Son, Moscher, and Messrs. Dinmore & Wilson, 125 West Baltimore Street. These latter gentlemen are the newest comers, and therefore, the last sensation in Baltimore. They have not only opened a very beautiful gallery, but also the finest assortment of *photographic stock* that Baltimore, in all its ups and downs in the stock business, has ever

seen. Mr. Dinmore, although a young man yet, is a veteran in the business, having been one of the first to take it up. Mr. Wilson has lived in Baltimore for fifteen years, and will be found attentive to all the Southern friends who may favor them with orders. They work upon the correct principle of keeping only the best of everything, and enough to fill orders promptly. They are bound to prosper, as there seems to be a very fine field for them there.

Messrs. Balch Brothers, from Memphis, Tenn., are erecting a very elegant establishment on Charles Street, which they say shall not be surpassed in the country. We wish one and all great success.

PENNSYLVANIA PHOTOGRAPHIC ASSOCIATION.

THE regular stated meeting of this Society was held at the store of Wilson, Hood & Co., on Monday evening, October 10th, 1870, the President, William H. Rhoads, Esq., in the chair, and about forty others present.

The minutes of the last meeting were read and approved, and then Messrs. A. W. Snyder, F. J. Quimby, A. L. Phillipi, John Carbutt, L. J. Marcy, P. E. Chilman, Edward Cope, C. Faser, and H. F. Smith, were elected as members.

A proper constitution was reported by the committee, and adopted by the meeting.

Agreeably to appointment, Mr. William Bell read a very interesting article on "The production of proper negatives for Retouching," which he illustrated by negatives and prints. He asserted that negatives made ordinarily, are not fit for retouching, and yet what he presented, and considered just right for that purpose, would be called bad negatives. Mr. Bell was listened to with great attention.

After examination of the prints and negatives, Mr. De Morat asked if negatives re-developed with pyro would not change.

Mr. Carbutt said his experience was, that a negative re-developed with pyro after fixing, if not washed very thoroughly, will change after considerable printing, and become more and more intense. A sure remedy is to re-fix for a moment or two after re-

developing. The varnish might be removed by steaming the plate over heated alcohol, and then doctored by re-fixing, drying, and re-varnishing, but it was risky.

Mr. Carbutt spoke of the necessity of re-developing with pyro *before* fixing, and he thought it was right. He had used gallic acid, nitrate of lead, and acetic acid, with a little silver, and found it excellent.

Mr. Bell said he had used the same, only substituting acetate of lead for the nitrate.

Mr. Carbutt said there was just where the mistake laid.

Mr. Wilson, after further discussion, commented on the practical nature of Mr. Bell's paper, the beauty of his results, etc., and on his motion, a vote of thanks was tendered Mr. Bell.

Mr. Cremer moved that a life insurance league be formed in the Society, and on motion, Messrs. Cremer, Hagaman, and Moore, were appointed a committee to consider the subject and report.

Mr. John Moran was appointed to read the essay at the next meeting.

Mr. Marcy's sciopticon was then put in operation, and a transparency of the checkered negative shown at the last meeting was enlarged on the screen, showing the defects very plainly.

Messrs. Marcy and Moran then entertained the Society for an hour, with an exhibition of transparencies of views in New Hampshire, and the Delaware Water Gap, colored subject pictures, and a number of various things printed by the Woodbury Photo Relief Process. The whole concluding with a very beautiful slide, made from fern-leaves, by Mr. Gaffield, forming the words, "God is Love."

The meeting adjourned at 10.30 P.M., after thanks were tendered for the fine exhibition.

PHOTOGRAPHIC SOCIETY OF PHILADELPHIA.

THE regular monthly meeting was held on Wednesday evening, October 5th, 1870.

The President, Mr. Frederic Graff, in the chair.

The Corresponding Secretary reported that he had received a package of photo-

graphs from the Oldham Photographic Society, in exchange for prints forwarded to them by this Society.

Mr. Edward L. Wilson offered for examination the celebrated picture "First Hour of the Night," by Robinson and Cherrill. It was much admired.

Mr. Moran stated that he had made a large number of experiments in landscape photography, for the purpose of proving which of the many lenses offered for such use would give the sharpest picture, the sharpness to be judged not by the eye alone, but by the assistance of a lens magnifying 40 diameters; after many trials he was enabled to determine to his satisfaction, that a photographic objective he had made by Dallmeyer was superior to any other he had tried.

Mr. Moran illustrated his remarks with negatives which were very interesting indeed.

The Secretary mentioned a serious difficulty that he had experienced during a recent photographic trip, which was occasioned by impure acetic acid in the developing solution.

Mr. Moran then exhibited to the members a fine collection of glass positives, which were enlarged in the Society's magic lantern. Among the number were a variety of White Mountain and Wissahickon views. Mr. Moran is devoting a good deal of attention to this branch of photography with marked success.

On motion adjourned.

JOHN C. BROWNE,
Recording Secretary.

FERROTYPERS' ASSOCIATION OF PHILADELPHIA.

AN adjourned meeting of the Ferrotypers' Association of Philadelphia was held at Mr. A. K. P. Trask's gallery, on Tuesday evening, September 23d, 1870, the President, Mr. A. K. P. Trask, in the chair.

In the absence of the Secretary, Mr. C. L. Lovejoy was appointed to fill his place for the evening.

The minutes of the last meeting were read and adopted.

James W. Birth, of Chester, Pa., William

W. Kelly, and William W. Seeler, of Philadelphia, were elected members.

Letters were read from Mr. Bolles and Mr. J. M. Houghton.

A lot of the new style paper plates were received from the Phoenix Plate Co., per Wilson, Hood & Co., to be distributed to the members of the Society for trial.

The Committee on Skylights reported progress.

Pictures for exhibition were presented by Messrs. Trask, Lothrop, Lovejoy, and Hayes, per Bolles, of Danville, Ill., consisting of large heads, and some very fine groups. Mr. Trask's picture was voted for by the majority.

Mr. Gilbert gave some interesting ideas of Western photographers, their galleries, skylights, etc.

Adjourned to Mr. C. M. Gilbert's gallery, 202 South Second Street, Tuesday evening, October 4th, 1870, at 7½ o'clock, sharp.

C. L. LOVEJOY,
Secretary *pro tem*.

The regular monthly meeting of the Ferrotypes' Association of Philadelphia was held at Mr. C. M. Gilbert's gallery, Tuesday evening, October 4th, 1870, the President, Mr. A. K. P. Trask, in the chair.

The minutes of the last meeting were read and adopted.

Mr. Charles McAllister was elected a member of the Association.

Pictures for exhibition were presented and voted on. One of Mr. Lothrop's ferrotypes received a majority of the votes.

A discussion on the merits of the new style of paper ferrotype plate now took place. The plates were composed of two paper layers which adhered together, and japanned outside like the ordinary iron plates. They can easily be split apart, presenting a good surface to receive paste, and pictures made on these plates can therefore be readily mounted on cards like photographs.

Mr. Lothrop said he had tried some of these plates, both quarter and whole size, and experienced much trouble in coating them without spilling an unusual amount of collodion, owing to their peculiar surface and want of stability, and had still more

difficulty to flow on the varnish after drying the pictures on the heater, owing to the plates warping so badly. The preparation on the edges of the plates to prevent absorption of the bath, does not stand, but breaks open, and allows the bath to penetrate into the paper. The only advantage he saw in favor of these plates was lightness, and pictures made on them were less likely to get bent or broken. But he could not recommend their general use, owing to the difficulty of working them.

Mr. Trask said he did not think it practicable to use these plates as they are now made, but thought they might be made so as to be used to better advantage.

Resolved, That further discussion on the paper ferrotype plates be postponed until the next meeting.

Adjourned to Mr. William W. Seeler's gallery, southeast corner of Eighth and Spring Garden Streets, Tuesday evening, November 1st, 1870, at 7½ o'clock, sharp.

D. LOTHROP,
Secretary.

DR. VOGEL'S ESTIMATE OF THE CLEVELAND EXHIBITION.

OUR German readers all know that Dr. Vogel edits the *Photographische Mittheilungen*,—a monthly photographic Journal—in Berlin. While in America he corresponded with his Journal, and we gather a few fragments from his letters which may interest our readers.

He was much struck with the earnest manner in which some forty photographers attacked the work of arranging the pictures at Cleveland, accomplishing the work in three days, while at the Paris Exposition, with no more to do and only eight persons to help, it required nearly two weeks to complete the arrangements. He says, "Each photographer here considered it a matter of honor to help, and the admirable work was done in three days."

"I observe that the public here take much more interest in the Exhibition than they do in our country in such cases. At the Berlin Exhibition, we met with great indifference on the part of the public. In Germany, where prejudice so often hinders

free development, the photographer is generally but little esteemed, and rarely considered an artist. Here in America, where such a difference of rank is unknown, he enjoys a much higher position, if he be able to fill it. Here the photographer is the chief representative of creative art, and is not forced to submit to the arrogance of artists. The public, also, when being grouped, or at any time having their pictures taken, generally place themselves under the orders of their photographer, instead of insinuating and insisting upon managing the job themselves."

After commenting upon the work on exhibition, he adds, "The general impression received is a favorable one, there being no medium class of work, on exhibition, as in Berlin and Paris." Still, medium quality of work is made here, alas, to too great an extent.

He praises our Rembrandt pictures, our Photo-Crayons, and especially our enlargements, commending Mr. Albert Moore, the solar printer, in the highest terms. The prices charged by Mr. Moore for full sheet prints, he thinks are exceedingly cheap.

He is surprised that there was so little landscape work on exhibition, while our country is so abundant in beautiful subjects, not surpassed even by the Harz, Thüringen, or the Rhine.

He seems astonished at the extent to which photography is used by railroad companies as an advertising medium, and he praises our railway cars highly as being luxurious, and is astonished at our number of railroads. Ambrotypes and ferrotypes are a wonder to him, and unknown in Germany. He took a box of plates home with him as a curiosity.

He was much surprised to see a large reception-room connected with each gallery, and as much surprised to see how very small and unhealthy the dark-rooms generally are here.

With reference to our glass-houses, he adds, they are generally high. In Europe, the whole north front and the roof are covered with glass, but in America, commonly only the middle part of the north top light is glass.

The extent of our stock houses also caused

him to wonder. One of his first visits was to the works of the American Optical Company, and in reference to their camera boxes, he writes: "They are very solid, and of excellent kind. They are not so heavy as the English and German cameras, and the stock here is perhaps the largest in the world.

"The small aperture in the holders, through which the dark slide is drawn, is closed by a spring, and there are no hinges to the slide. I prefer this contrivance to the divided front board or slide, with hinges fixed on the dark-slide, soon getting out of order by the silver drops penetrating the joints. The American tripod stands are in general more solid and simple in their construction than the European stands."

The working of the Woodbury process he saw here for the first time, and describes it fully. His letters are long, and it is interesting to know what American photography seems to German eyes. Dr. Vogel's impression of it was certainly very favorable.

NOTES IN AND OUT OF THE STUDIO.

BY G. WHARTON SIMPSON, M.A., F.S.A.

Photography and the War—Adam Salomon's Background — Dr. Vogel — Magnesium Light — Removing Silver Stains — Bi-meddalion Portraits — Stains on Opal Glass.

Photography and the War.—Besides the all-absorbing interest to mankind at large of the terrible war which is raging within a few miles of our shores, it seems to press itself upon the special interest of photographers from many causes. Paris is the market from which a very large portion of the photographic requisites consumed in this country was obtained, and already scarcity in this direction is beginning to be felt. A large number of photographers from Paris have recently reached London; some must be ruined, and all most seriously impoverished. M. Goupil recently arrived here; his large establishment for photo-relievo printing, erected a year or two ago at Asnieres, in the suburbs of Paris, and only very recently completed, is, I under-

stand, levelled with the ground. The immense carbon printing and photo-relievo printing establishment of M. Braun, of Dornach, is in the very midst of the seat of war in Alsace. I have not heard of its fate; but I fear that it can scarcely have escaped the devastation. M. Adam Salomon and his family have arrived here. He informed me that he had given up his residence and studio at Passy, for the use of the wounded. M. Reutlinger is also here; he called upon me the other day, but I had not the good fortune to see him. M. Nadar, a distinguished Parisian photographer, has taken charge of the balloon department of the war in Paris. Some photographers suffer more fatally. The blind rage of the infuriated French peasants sees in every artist, either sketching or photographing, a Prussian spy, and little time for explanation is afforded. A young collegian, who was recently sketching for amusement, near Vincennes, not immediately noticing the challenge of a *Garde Mobile*, was at once shot dead. M. Hart, the first person shot in Paris as a Prussian spy, was a photographer, and had a few months before been engaged in Jersey as an operator.

Of course the shop windows in London teem with portraits of those distinguished in connection with the war, and despite Lavater, the public are irresistibly led to the conclusion, that "there is no art to read the mind's construction in the face;" for amongst the most manly and genial-looking of the photographed faces, is that of the braggart and blundering *Le Bœuf*; and amongst the least imposing or impressive faces, is that of the profound strategist Count Von Moltke. Photography has, I understand, played an important part amongst the Germans in the rapid multiplication of maps, plans, and other topographical aids in carrying on war in an enemy's country.

M. Adam Salomon's Background.—I was showing M. Salomon some examples of the work of Mr. Kurtz, and describing to him the cone background and its value in securing light and shade to relieve the figure. He informed me that he had for the last two years been using an arrangement with a similar end, but somewhat different in con-

struction, and having also a somewhat more comprehensive aim. His background forms a curve, or the arc of a large circle, the chord of which arc would be about nine feet. Attached to this is a ridge-shape canopy of semi-transparent material. This canopy opens at the ridge, and is hinged to the background at each side, so that it can be opened to admit a portion of direct light. As, however, it is chiefly by a high side light that M. Salomon illuminates his figures, the curved background plays the most important part in his lighting. The sitter is placed within the curve, and the background, which is made to run easily, is moved round him until the right effect is produced, the curved screen being used to regulate the amount of light admitted on the lighted side, and to act as a reflector on the shadowed side, as well as to form a background, which by its light and shade gives space and relief to the figure. He has intended for some time, when his experiments with it were quite complete, to favor me with a detailed description and diagrams, but although he is perfectly satisfied with the results, and finds that he can quite dispense with blinds, the matter has hitherto been procrastinated. Now, however, I hope shortly to be able to place the matter more fully before your readers, and give diagrams illustrating the system. It may interest your readers to know that M. Salomon was much charmed with many American photographs I showed him; pre-eminently so with three or four of those by Mr. Kurtz, I was able to place before him, and also with the enlargements by Mr. Moore.

Dr. Vogel.—Our common friend, Dr. Vogel, spent a day with me on his journey home. He gave me a most glowing and interesting account of America, Americans, and American photography. Although it is eighteen years since I was in the States, we were able to compare notes with much interest; and I was able to appreciate the rapid change which had been going forward. I have now a camera and some other daguerreotype apparatus I purchased at Anthony's store in New York, in July, 1852, and I have a ninth-size daguerreotype portrait of myself, for which I paid at that time the incredibly small sum of half a dol-

lar, in Broadway. A glance at these things, however, enables me to judge of the immense stride in photography as Dr. Vogel proceeds with his enthusiastic narrative. Above all, he was delighted with the comprehensive intelligence and enterprise of American photographers, and with the status of the art amongst the people. His anxiety to get home made his stay in London very brief. Although going home to a victorious country, his gladness was sadly tempered with apprehensions for the fate of brothers and friends in the army. He anticipated his own immediate dispatch to the seat of war on medical duty. I have not yet heard from him since his arrival in Berlin.

Magnesium Light.—I do not know whether in your country of prevalent sunlight magnesium is much used in photography. If it be, it will be good news to learn that the price of magnesium will, in all probability, be very shortly reduced, in consequence of a new and cheap method having been discovered of preparing sodium, by means of which the metallic magnesium is recovered from its chloride. The price of sodium amounts, at present, to twelve shillings a pound, and a company recently formed to work the new sodium patent hope to reduce its cost to one-twentieth of that sum. Should this marked reduction in the price of sodium really come to pass, we may hope to purchase magnesium at a very moderate rate indeed, and thus secure a source of artificial light at once effective and economical.

Removing Silver Stains.—There are various methods of removing stains of nitrate of silver from the fingers and clothes. Any simple and efficient method is, however, always useful to the photographer as an addition to his resources. The chloride of copper has been strongly recommended lately for removing stains of nitrate of silver, especially upon linen. For treatment of a fabric, a very dilute solution is used, and the stuff afterwards thoroughly washed with plenty of water. The chloride of copper does not destroy the colors printed upon the linen, provided the same is rinsed in a solution of hyposulphite of soda.

Bi-Medallion Portraits.—Novelty, which does not involve much additional trouble

or cost, and may secure additional patronage, is generally acceptable to the portraitist. A correspondent has recently sent me some examples of a style which has pleased his customers, especially newly married or engaged couples. It consists of two portraits in oval medallions, side by side, just touching each other, on the long way of an ordinary card. I have styled them "Bi-medallion Portraits;" I inclose you an example. I also append some extracts from my correspondent's letter, describing his mode of producing the pictures. He says:

"First, then, the camera. I use a camera with sliding back for double cartes. In the opening at the back I place a piece of blackened cardboard, with an oval cut out in the centre, which I fasten by means of four black pins. This is all that is required to be done to the camera. I now place a chair in front of the lens, and request my sitter to sit there. If it is a lady and gentleman, I always ask the lady to sit first, and pose her head so that it will be looking towards the right (which, I believe, according to the rules of art, will be correct), as, in the finished portrait, the lady will be to the left of the gentleman, and looking towards him. I then adjust the head-rest and light. This is another important thing, and, in this style of portraiture, a great advantage; for instance, in taking a group, we put our sitters looking towards each other. And what is the result? Why, that one has the shadow on the wrong side of the face. Now sir, I am enabled to correct this, and by this means: I use a side-light on each side, and have dark and light blinds; thus, in taking the lady, I draw the dark blind on the right side, and *vice versa* for the gentleman, and my shadow is right in each case. And now expose. Then put the gentleman to sit, placing his head against the rest and looking towards the left; there is no occasion to focus again, but merely to shift the dark-slide. The proper distance must be ascertained previously; it must be so that the rays will overlap without injuring the image. I then proceed to take them over again, but reversing the views of the face; care must be taken here, or the result will be that the sitters are looking away from each other; always take the lady first, and

then you cannot err. By the use of a half-plate I am enabled to get four portraits on one plate, and choose the most pleasing to print from. This concludes the operating part.

Now for the printing, which consists of cutting out a bi-medallion mark. I use old prints which have stains, etc., blacken them in the sun, and proceed to cut out the mask as follows: I draw a line straight across the paper vertically, not in the centre, but a little distance from the top, so as to get my ovals in the centre; I then take a ninth size mat, place the straight top level with the line (but not in the centre of the paper), and cut out the oval; I then shift it to the other side, letting the inner side overlap the other oval, and cut out again, by which means I get my ovals in contact; I place this mask on my negative, and print."

Stains on Opal Glass.—In my recent visit to a photographic glass manufactory, I learned several useful hints, one of which, referring to opal glass, is worth mentioning.

Smoothed opal glass possesses a surface so absorbent, that when an image has once been developed upon it, the traces generally remain after cleaning. The method I have generally recommended for removing such stains, has consisted in applying tincture of iodine followed by strong hypo or cyanide, then washing with dilute nitric acid, and rinsing. Mr. Forrest informed me that the use of a little fine emery powder, rubbed for about a minute with the finger-end on the stained part, is the most efficient method of cleaning. I have tried it with complete success. Of course, the plate will require rinsing afterwards.

PHOTOGRAPHIC DIALOGUES.

(SEQUEL TO ONE HUNDRED DAYS IN A FOG, ETC., CONTINUED.)

* BY ELBERT ANDERSON,
Operator at W. Kurtz's Gallery, 872 Broadway, N. Y.

A. Here is a shallow rubber tray, rather larger than the largest plates we have occasion to use. Into it I pour a saturated solution of hyposulphite of soda, which has been filtered.

M. This is the fixing solution, I presume! We call it the "hypo," for short.

A. Yes, a most unfortunate name, by the by, inasmuch as it neither *fixes* the picture, nor in fact affects it in the slightest degree.

M. Why, what do you mean? Would not the picture on the negative, as well as the printed proof, fade entirely away, if they were not first fixed in this bath?

A. No, certainly not.

M. Ah, bah! Come now, that won't go down, you know!

A. The best way to convince you then, is by experiment. I coat this plate and sensitize it. There it is all ready.

M. Isn't there too much light in this room?

A. Oh no. Light up your dark-room(!) as brilliantly as you like. Look! my entire sash is orange glass. I can read in here as well as in the skylight. Why so many photographers work in a *dark-room* fumbling and shuffling about, in preference to a room as light as day, is rather a mystery to me; that is *their* business, however. Now, I put the plate in the hypo, observe the effect. See, the hypo has dissolved all the iodide and bromide of silver from off the plate, leaving it in pretty much the same condition as it was before it went into the silver bath. All the collodion is here, however, though deprived of its iodides.

M. What does this prove?

A. Patience, patience, wait and see. I now prepare another plate and before putting in the hypo I will expose it to the daylight. So; now I put it in the hypo.

M. The iodide is dissolved exactly as in the first instance.

A. Yet, Mr. Marshal, the condition of the film has been most materially affected by this exposure to the light.

M. How can you prove this?

A. I now prepare another plate and pour over its surface some of the developer. Observe the effect.

M. I don't see any effect to observe.

A. The developer containing acetic acid, as you know, is restrained from immediately producing a precipitate in the silver solution on the plate. It has now been on about a minute or so; we will now dip it in the hypo.

M. Still the iodide is dissolved as before.

A. Finally, I prepare another plate, and

before applying the developer I expose it to the light, for only a second of time. So, that's enough. Now, I pour on the developer, observe the effect.

M. The whole of the plate has turned to a dirty brownish black, exactly as the silver solution did in the saucer.

A. Thus we see then, that *something* happened to the film during that second of exposure to the light, and whatever that *something* was, it had this effect, namely: to hasten the decomposition of the silver solution in the first place, and to cause it to precipitate only on that part affected by the light, in the second place, which in *this* case was the entire plate. Now I put it in the hypo; see, the film is no longer dissolved as before. The hypo now, has no effect upon it whatever. Now repeat the experiment, covering one half the plate with any opaque screen before exposing it to light. I now pour on the developer, which, as you see, precipitates the silver instantly, but it is only deposited on that half which was exposed. I now wash off the developer under the tap, and put the plate in the hypo. See! only that part not exposed is dissolved, whilst the other half is unaffected.

M. Now hold your horses a minute. You say the *iodide* of silver is affected by the light; how do you know it wasn't the *nitrate* that was affected, and not the iodide?

A. That is the way to look at it, Mr. Marshall. Let us prove what we are about step by step as we go. Here is another prepared plate, and before exposing it, I wash off all the nitrate thoroughly. There, now I expose it. Shut the window. Now I pour on the developer.

M. Ah! I told you so; see, it don't precipitate. The iodide, then, couldn't have been affected.

A. Not *quite* so fast, Mr. Marshall, you are wrong; you forget the developer has *nothing to act upon*, there being no nitrate to precipitate.

M. By Jove! you are right; now what's the next move?

A. I will pour off the developer in this glass, and mix with it a few drops of silver solution. See, the acid prevents immediate precipitation. Now I pour it again over the

plate; there! the plate begins to blacken at once.

M. Yes, that's true, but—

A. But what?

M. But still you had to use nitrate, you know.

A. Yes, but the *nitrate* has not been exposed, having been added *after* exposure. Your remark, however, is very apropos, and we shall see presently that pure iodide of silver is unaffected by the developer, and that *the compound which blackens on its application is iodide, with an excess of nitrate.*

M. Now I begin to smell an immense mice.

A. How so?

M. After the plate has been exposed in the camera, the light impresses the image, and so affects the plate that when the developer is applied it only precipitates on the image so formed, whilst the other portions of the plate remain intact. You now wash off your developer, and there's your picture. The picture being already formed is already *fixed*, as it cannot be further affected by the light. *But*, when we expose the negative thus formed to light, that portion of the plate not previously affected by the light, now in turn is acted upon, and would shortly so affect the whole plate as to totally obliterate the picture, and it is to prevent this, that we dissolve it away in the hypo, leaving the image; and not for the purpose (as improperly termed) of *fixing* it.

A. That is it, exactly. The word photography itself, is the most unfortunate of all.

M. Why! you surprise me. Is *that* also a misnomer?

A. Undoubtedly—inasmuch as *light* not only does *not* exercise any influence in producing the picture, but on the contrary, tends to destroy it; and that the *luminous principle* (which we call *light*) is not necessary to make a photograph, I can prove by experiment, and take a picture in total darkness.

M. You will, perhaps, excuse me if I am skeptical, but I should mightily like to see this done.

A. It is accomplished in the following manner: A large prismatic spectrum is thrown upon a lens fitted into a side of a

dark room (I do not mean a *photographic* dark-room, but one of absolute darkness), and the only rays allowed to pass through this lens are those situated at a point beyond the violet ray, where there is no light at all; these are directed upon any object, and from that object radiated upon a sensitive plate: in this way an image may be formed by radiations which produce no effect upon the eye.

M. Well, well, that beats cock-fighting.

A. As the above experiment cannot well be performed without all the necessary conditions, I propose to show you an easier application, to prove what I have stated. Here I have an engraving; I cover one-half with this piece of blue glass, and the other half with this piece of orange glass; now I focus this on the ground-glass of my camera. There, look in and see for yourself.

M. I see that portion of the engraving covered by the yellow glass brilliantly illuminated, whilst through the blue glass I see absolutely nothing.

A. Now we will expose a plate. So; come and see it developed.

M. Well, upon my word! It has copied most faithfully that part which was *totally invisible*, whilst the brilliantly lighted half has been wholly neglected. I never should have believed this, had I not seen it done. That is really a most curious and remarkable experiment. Speaking of light, in the term as it is understood, what is the nature of this action of light on a sensitive plate?

A. We are not at present prepared to answer this. There are several *theories*, which we will discuss presently; in the meantime it may not be out of place to mention a few remarkable facts, and to perform some interesting experiments. There are several reasons for supposing that each of the three principles, light, heat, and actinism, included in the solar ray, exercise a distinct and peculiar influence upon *vegetation*. Thus the luminous principle (what we call light) controls the growth and coloration of plants. The calorific principle, their ripening and fructification; and the chemical principle, the germination of seeds. Now, seeds which ordinarily require ten or twelve days for germination, will germinate under a blue or violet glass in *two or three*. The

reason of this is, that the blue glass permits the chemical principle of light to pass freely, but excludes in a great measure, the heat and light; whilst on the contrary, it is next to impossible to make seeds germinate under a yellow glass, because it excludes nearly all the chemical influence in the solar ray. You are no doubt acquainted with the extraordinary effects of light on chlorine?

M. I dare say I am, but you had better tell it me over again.

A. The intense affinity which chlorine manifests for hydrogen is very remarkable, yet this affinity is called forth by a most singular action of light. For if equal volumes of chlorine and hydrogen gases be mixed together in a white glass vial (they must be mixed in the dark), they will remain for an indefinite period without action upon each other. Now if the vial be exposed to diffused light, combination will take place gradually; but if the mixture be brought into direct sunlight, the union takes place immediately, accompanied with a powerful explosion. Or the vial may be put into a dark place (a cellar, for instance), and a ray of sunlight directed upon it by means of a mirror; the instant the ray strikes it an explosion will occur. Again, if the *chlorine gas alone* be first exposed to the light, it acquires and retains for a considerable time this power, and if afterwards mixed with the hydrogen, *even in the dark*, an explosion instantly takes place.

M. Well, well, live and learn!

A. Here then is a case in point, of light having *commenced* an action on the chlorine, which is continued in the dark, analogous to the action on a sensitive plate, which is continued by the developer in the dark-room. As this experiment, like the other, requires certain conditions which may be inconvenient, let us get at "something nearer home," as the saying is.

(To be continued.)

MR. SIMPSON'S YEARBOOK OF PHOTOGRAPHY.

THIS excellent work, giving an immense amount of information and instruction for fifty cents, has been much sought after during the past month, and some very flatter-

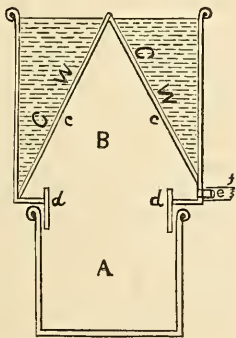
ing praises are being bestowed upon it. At this we are not at all surprised, for it is so full of good, coming from the minds of the best workmen in Europe, that no one can read it without a great deal of profit. The edition will soon be exhausted, though there are a few more left.

Simple Way of making a Still.

BY J. EDWARDS SMITH.

I HAVE enjoyed with genuine photographic relish the dialogues contributed to your columns by Mr. Anderson. In general, they announce plain facts, sound sense, and withal, a spice of genuine wit.

His method of making a still, however, is both expensive and complicated, so I propose right here, to give you a sketch of an apparatus for distilling pure water, which will perform all that Mr. Anderson claims, at one-tenth the cost, and is far simpler. It is *not* original with me. Some sixteen months ago, a *man* told me about it, and I went right over to the tinman's, chalked out a drawing on his wall, and an hour afterwards, I had the whole affair "*biling*," and at a cost of only one dollar; here it is: It can be made of tin plate, or better, tinned copper. It is so perfectly simple that really it requires no explanation, yet for fear that Marshall, or Roland Vanweike's "*Focus*" may be tempted to put in their oar, the following description may keep them quiet.



A is a round vessel, about the same height as its diameter, with a stout wire around the top edge; this vessel to contain the water to be distilled.

B is the condenser, made at the bottom with a shoulder and flange to fit easily into the top of A; the flange runs up a little above the shoulder, as shown in the sketch.

The condenser, B, is also fitted with a cone "c" (like the top of a funnel inverted), and tightly soldered at its base, *near* to the bottom of B; leaving height enough, however, to insert anywhere on the circumference of B, the little short tube "e."

The condenser has no top.

Now to use: Fill A two-thirds with water, put it over your gas (or any other) stove; when the water boils, put on the condenser, B, and fill the upper part with cold water; the steam as generated strikes the cold surface of condenser "c," becomes condensed, and trickles down to the trough at the base, and soon flows out of the short tube "e" pure and sweet; "f" is a detached tube, which slips on and off of "e," and serves to conduct the water where desired.

This simple affair will distil for hours even after the water above the condenser has become quite warm (of course it works faster to change this occasionally, pouring part back into A to make up for the loss by evaporation). It will prove a blessing to many a photographer, and I may add, it is not "*patented*."

A great advantage that this machine has over *all* others is that *every part* can be kept *perfectly clean*, and with little labor.

AWARD OF THE PRIZES.

THE competition for the four gold medals offered by us for the best examples of work, closed on Saturday, October 15th. On Monday, the 17th, the judges, Messrs. Wm. H. Rhoads, Jno. G. Hood, and Geo. H. Fennimore, examined the negatives and prints offered, and made the following awards: 1. For the best plain portrait-work, to Walter C. North, Utica, N. Y. 2. For the best composition picture, to Messrs. Robinson & Cherrill, Tunbridge Wells, England. 3. For the best landscape, to J. C. Browne, Philadelphia, Pa.

The fourth prize was for retouched negatives. There were only two competitors, Mrs. W. M. Lockwood and Mr. J. H. Fol-

son, for this, and inasmuch as the work of neither was up to the standard, and there were so few to compare with, the judges decided not to award the medal, trusting that, when the next offer is made, the same parties will try again. They deserve much credit for their present attempt, and the judges have no hesitation in saying that both are on the right road to excellence, and hope they will persevere.

For plain portrait-work there were fifteen competitors, and the average work was better than on any former occasion, showing improvement continues. There are some excellent things among them. Some of the examples sent, however, show that the parties who made them are still working in the dark.

The landscape-work is very cheering indeed, and our intimation that our country was behind Europe in this respect seems to have stimulated the competitors to greater effort, and made it very hard for the judges to decide. There were nine competitors for this prize, some of whom sent as many as three sets of negatives. The work of Mr. R. Newell, Philadelphia, and of Mr. C. A. Zimmerman, St. Paul, Minn., was specially commended by the judges. The latter gentleman sent three sets of negatives, and was Mr. Browne's fiercest competitor, the pictorial beauty of the subject selected by Mr. Browne being the only deciding point. Mr. J. R. Moore, Trenton Falls, N. Y., also had two fine negatives, and Mr. M. F. King, Portland, Maine, two beauties of a view on Casco Bay.

There were six competitors for the composition prize, and our English friends carried off the palm. The work of their competitors was all creditable and promising.

Now, as some objection was made formerly to the wholesale criticism of the judges, publicly, we have decided to adopt a different course, as follows: In order that all who desire may study these pictures—their faults and excellencies—we shall print sets for sale at a low price, and, with them, furnish a little pamphlet, giving the criticisms of the judges on each, and such information as we can get from the parties concerning their skylights, their method of working, etc., etc. This will make a matter of great interest,

and we shall be enabled to announce our plan and the price more fully in our next.

One Background for all Gradations of Tints.

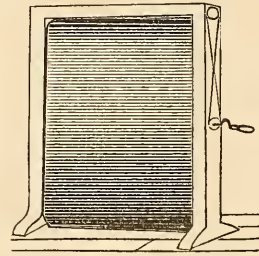
INVENTED BY CAV. OTTAVIO BARATTI.

ALL photographic artists in a greater or less degree have experienced the great annoyance of a change of background as circumstances, such as the light, the dress of the sitter, the age, sex, the color of the face, of the hair, etc., may require.

It will not, therefore, be considered inopportune to give the means by which may be obtained all the shades of color from black to white on a single screen, without substitution, and at the instant of the pose.

Few words and the accompanying figure explain this background in a sufficiently clear manner.

Take a strip of muslin of suitable width six metres long and colored progressively and with continuous degradation in such a manner that at the opposite ends there shall be one metre of white and one



metre of black. These two ends are joined together and thus form an endless band. This is placed on a wooden roller supported by a framework and put in motion by two wheels; at the bottom another free roller keeps the cloth stretched.

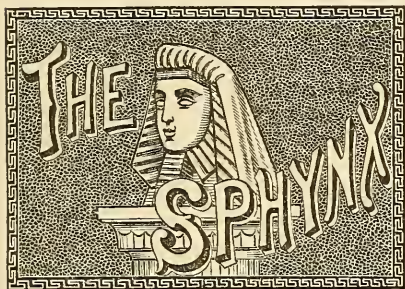
The motion may be communicated by hand by means of a crank, or by clockwork.

If the operator wants a dark ground, he brings the black part to the front, and keeps it there; should he wish it rather lighter, he begins at the white and passes gradually to the darker tints.

Another advantage of this apparatus is to keep the backgrounds of the pictures free from spots or stains, as the cloth being in motion during the pose, it can leave no traces of them.

Those who have tried this screen, have declared it to be much more convenient

than all others, even those used in first class establishments, and the foregoing description must be convincing as to the advantages which it presents. The construction is simple, presents no difficulty, and also costs little.—*Italian Photographic Review.*



Contributors to Sphynx will please write on *one* side of the paper only.

Additional Answers to September Queries.

2. "Stuck" will find on page 67 of Mr. Simpson's excellent *Yearbook*, 1870, full directions for white and for blue frosting of glass, and recipes for making the mixtures, given by Mr. J. Edwards. The instructions there given will un-"stuck" him.—A.

4. On page 34 of the *Yearbook*, 1870, very simple directions are given for finding the equivalent focus of a lens. In fact, the said book is just full of such valuable *information*.—A.

Answers to October Queries.

1. Oh, "Ecnerolf," how could you ask such a question, if you have had the experience I thought you had, judging from your contributions to Sphynx? But here is an answer for you. Pinholes born of dust, though small, are of various shapes and sizes; ditto from excess of iodo-nitrate of silver in the bath, are very regular and uniform in size, and also small. Hold your plate up, and look across it before developing, and in the latter case you will see the particles on the plate. Now develop it. See? The developer washes off the particles, and their *tracks* only are left in the shape of pinholes. Pinholes from particles of the film floating in the bath are irregular in shape, and larger than the others.—LIVINGSTONE.

2. The graduation of a hydrometer is entirely arbitrary. To make it as compact and convenient for use as possible, the readings are doubled, for if the divisions were made to indicate single grains, the stem would necessarily be twice the length, rendering it more liable to breakage, and requiring a longer tube and more solution in which to float it. It could be made also with the same length of stem, but in this case the divisions would be so close together as to make the readings troublesome and uncertain.—J. F. MAGEE.

3. Hydrometers indicate specific gravity or density, and as liquids expand by heat, they become less dense; for this reason a hydrometer sinks *deeper* in a solution when it is hot than when cold, and it is necessary if a correct reading is required, to have the solution of a certain definite temperature; this, as hydrometers are usually graduated, is 60° Fahrenheit. The difference in the readings of the same solution of nitrate of silver when hot and when cold, is not near as great, however, as would be supposed from reading the question.—J. F. MAGEE.

4. Make a collodion that will work flat, and mix the two, *i. e.*, make a collodion with as great an excess of alcohol as it will bear, without precipitating the cotton, and mix it with the "hard" collodion. A decrease of iodide and increase of bromide will also reduce intensity, and if it is *necessary* to use a "hard" collodion and you have no other, use alcohol in the developer.—G. H. FENNEMORE.

5. The cotton is generally the cause of flatness, and the best way is to make a fresh batch of collodion with a new sample of cotton.—G. H. FENNEMORE.

6. Simply because they affect the color of the deposit of silver when toning. Acetate is best for warm sepia tones, and is used the most. Phosphate yields purple, and tungstate warm brownish tones.—G. H. FENNEMORE.

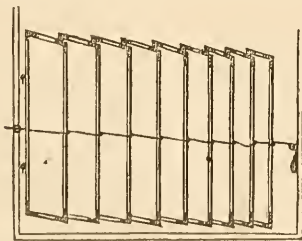
7. If nitrate of silver is kept melted too long, or if it is melted at too high a temperature, it is decomposed, the nitric acid being driven off, leaving metallic silver behind. Dissolve with pure nitric acid, and evaporate down until it is dry, and then melt care-

fully. As soon as it becomes an oily-looking liquid, remove it from the fire, and allow it to cool. Do not have the heat so great that reddish fumes are given off, for they are the signs of decomposition.—JAMES F. MAGEE.

8. "Corks" might as well ask "What is the velocity of the wind?" as to put the silly question he does. He could be as readily answered. The developer must, of course, be used to suit the subject, light, etc., and it would be a long story to tell him all the variations. He explains the whole theory in his own question.—LIVINGSTONE.

9. There is no end to the causes of fogging. Probably in "Sam's" case his water is impure. Any organic matter in the water is sure to contaminate the bath. May I ask him if his yellow glass is not guilty of admitting light of the wrong sort into his dark-room?—LIVINGSTONE.

10. For a number of years I have used the following method of screening off the sun, and regulating the light in my gallery to my entire satisfaction. A glance at the diagram below will show its use and construction, and as I believe a good photographer is somewhat of a mechanic, he will find no difficulty in constructing it himself. I use the following materials: $\frac{1}{2}$ x $1\frac{1}{2}$ -inch strips, joined at the corners with a tin plate, cut in angular shape, on each side fastened with tacks. For hinges, I use screw-eyes No. 112, of which I screw two into the sash, and open two, forming a hook, which I screw in the edge of the frame; at the opposite edge and centre of the frame I put one



screw-eye, to which the cord is attached when hung at the corresponding distance to the sash; in the casing nearest the sitter, I attach a screw-pulley, through which the cord passes, having a weight attached. The

opposite end of the cord, passing through a screw-eye in the casing, is used to regulate the light. The screens, when not drawn up, will always relax, giving the full proportion of light by medium of the weight.

I cover the screen with blue tissue-paper, and use the same device both for sky and side-light. I divide the side in two, and the skylight in four parts, thus securing all the necessary control of the light.—T. M. SCHLEIER.

Stretch a set of wires from side to side of the skylight in either direction you may choose, one yard apart. Another set of wires, except at the sides, a few inches apart (say 4), placed so that when curtains are strung upon them, they will overlap enough to shut out any light between them; get white muslin one yard wide; sew to the edges metal rings about six inches apart, and string upon the wires, and operate by a rod, or cords and pulleys. Immediately beneath this set of curtains or screens, hang a similar set of black muslin, and with the combination, any light can be governed at will.—F. M. SPENCER.

11. A good way to get a colored light for a dark-room, is to cut panes of glass so as to fit the inside of the sash, and insert between them and the outer panes as many thicknesses of tissue-paper, of yellow or green color, as may be necessary to produce the degree of color desired; fasten the inside panes of glass with tacks, that they may be easily removed and cleaned, or the tissue-paper changed.

To prevent any white light coming in at the sides of the panes, paint black lines half an inch wide around the inside of the fixed or outer panes. This method is cheaper than paint or colored fluids, easier of application, and more durable. My own has been in use three years, has never been cleaned, or the paper changed, and is in good condition yet, yellow paper being used, and it will not fog a plate, even when sunlight falls upon the window.—F. M. SPENCER.

QUESTIONS.

1. Will nitrate of soda gain access to the bath by alternately acidifying with nitric acid and neutralizing with bicarbonate of

T H E

Philadelphia Photographer.

Vol. VII.

DECEMBER, 1870.

No. 84.

Entered, according to Act of Congress, in the year 1870,
By BENERMAN & WILSON,

In the Clerk's office of the District Court of the United States for the Eastern District of Pennsylvania.

IMPORTANT ANNOUNCEMENT. 1870-71.

THIS being the last time we can greet our many readers this year, we beg to wish them, one and all, a *Happy New Year*, and a prosperous one. The year 1870 has witnessed more improvements in American photography than any previous one, and we believe that the year that is coming so rapidly upon us, will far exceed that in its accomplishments. If so, it will indeed, then, be a *Happy New Year to you*. If the coming Exhibition in Philadelphia is supported with the same growing, enterprising spirit that characterized the one in Cleveland, then it will be a *Happy New Year for us*. Now there is one way to insure all this. You can be happy in anticipation of coming here next June with your best work for exhibition, and after you have been here, we will guarantee that you will feel happy *all the rest of the year* that you came.

Now we do not wish to neutralize your prospects for future happiness, and we don't think we will, when we ask you to examine your wrapper this month and see if it is stamped "*Subscription Expired*." If it is, we believe you will need no further hint from us as to what should be done. We hope to retain you all as our subscribers, and that each one of you will try to send a new one and secure a premium. Our list of

premiums you will find on the third page of the cover. We need not say more on this score.

There is another subject, however, which we wish to broach, and it is this: We have often been told that our magazine would be more useful and more acceptable if issued more frequently. We can see, and you can see, the advantages of such a change; but *we only* see the additional labor and expense attendant upon it. It would require us to devote our whole time to your interests, and bind us more closely to you than ever. We have deliberated considerably and long over the matter, and have concluded to announce to you that beginning with the new year, on the 15th of each month, we shall issue a *supplement* to our issue of the 1st of the month, which we shall call the *Photographic World*. It will be exactly the same in type, style, size, etc., as the *Philadelphia Photographer*, and will contain a photograph every month the same. The only essential difference will be in the matter. The price will be the same. Several new features will be introduced, the main one being the reproduction of the most useful contributions which appear in the European journals, and a summary of *all* of them—of *every paper written* on the subject of photography, no matter what the source. There are hundreds of such valuable papers appear annually, which our readers never enjoy see-

ing, because we have not the space to reprint them. This will no longer be the case. You shall hereafter know of them all,—English, German, French, Dutch, Russian, and Indian. Still the *World* will be *American* in its ideas and notions, and original papers, by practical American photographers, will appear in each number, the same spirit that pervades the *Philadelphia Photographer* always characterizing the *World* throughout.

We very well know that some of our readers will feel that they cannot afford to take a semi-monthly. To accommodate them, we shall issue it as a *separate journal* altogether, and page it by itself. At the end of the year it can be bound with the *Philadelphia Photographer*, if you take both, yet those who only wish one or the other will have a complete volume in either. To those who take both, a concession in price will be made, for particulars of which we ask you to read the prospectus.

We undertake this work believing that the working photographers of America will support it. We have, as you will see, arranged our subscription rates and terms so that the more humble class of enlightened photographers—and those seeking after *more light*—can be accommodated. We are fully aware that the love of intelligence and improvement is growing among the photographers of America. There is probably no other class of people, who, *as a class*, are more determined to have the *very best information* they can procure on the subject of their business. Our object is to render the *Photographer* and the *World* the vehicles to convey that sort of information, and to adapt them to the wants and interests of the photographers generally. They shall have the earliest, the best, and the *most* news that money or enterprise can possibly secure. We therefore hope to receive a liberal support from them.

After seven years' labor in the editorship of the *Philadelphia Photographer*, we hope our readers are convinced of our devotion to their cause. We expect to continue it, and hope to deserve reciprocity. We shall worship no man, his process, or his cause. On all things involving the common interests we shall speak freely, apprising the

fraternity of their rights in all things, our main object being to *work for them* in every right direction, and to elevate them to a higher standard as professionals, thus elevating the beautiful art we advocate. We shall applaud the good and point out the bad *always*, so far as our ability extends.

As we mean to *deserve* support, we are the more free to acknowledge that we *expect* it, both for the *Philadelphia Photographer*, during the eighth year of its life, and for the *Photographic World*, during the first year of its existence.

THE STEREOSCOPE.

BY J. B. LYMAN, A.M., M.D.,
Rockford, Illinois.

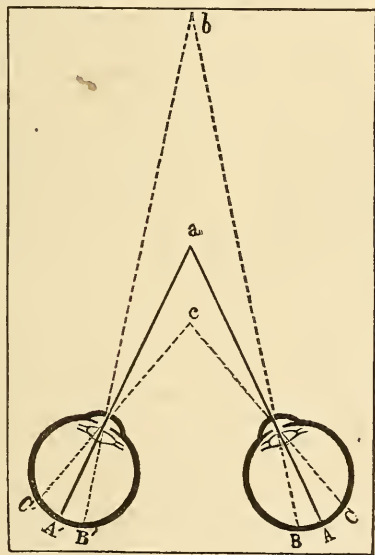
THE following is offered as a concise explanation of the principle of this instrument and its wonderful illusion.

The primary object of the lenses is to superpose one picture upon the other, and not, as some suppose, to magnify, although they have that effect. The superposition may also be effected by mirrors, as was done in the first stereoscope. And, with some practice in controlling the muscular movements of the eye, one picture may be superposed upon the other and the full stereoscopic effect observed without any instrument whatever, as the writer can testify from his own experience. But how is the "blending" of the two pictures produced so as to give the effect of solidity, or, in other words, so as to give the true perception of distances as if we were looking at the natural objects?

To make this clear we must first inquire what it is that gives us the notion of the relative distances when we look at an assemblage of natural objects, as in a landscape. We find that this knowledge is derived principally from three sources; first, from *perspective*, according to which an object at a distance subtends a less angle at the eye, and consequently forms a smaller image upon the retina, than the same object when nearer to the eye. This combined with our previous knowledge of the real size of the objects derived from experience gives us the idea of distance. We also derive some knowledge of distance from atmospheric effects. In a good photograph we have both

of these principles illustrated; but we have them in the single photograph the same as in the double stereograph. We do not then find in *these* principles the explanation of the wonderful illusion of reality which the stereoscope gives us. But there is a third source of our knowledge of distance, which will fully explain the stereoscopic effect. This is a principle derived from the physiology of vision. It is well established that in viewing a landscape with objects at different distances only one of them is seen *distinctly* at a time.

Let the objects a, b and c, be directly in front of the two eyes and at different distances, and let the two eyes be fixed upon the object a, or in other words, let the visual axis of each eye be directed to that object. The image of the object a, will be formed at A and A' in each eye and will be seen *distinct* and *single*, for the points A and A'



being at the extremities of the visual axes are corresponding or so-called *identical* points, and although there are two images, one in each eye, yet if the images are formed on *identical* points in each retina they will be seen as one. While the eyes are still directed to a, the image of the object b will evidently be formed in the right eye to the left of A and in the left eye, to the right of A', or at the points B and B'.

But the points B and B' are not *identical* points (for it must be remembered that it is not the inner half of the retina of one eye that is *identical* with the inner half of the other, and the outer half of one with the outer half of the other; but the *inner* half of one is *identical* with the *outer* half of the other, or the two right halves correspond with each other and the two left halves also with each other). Therefore since B and B' are each in the inner half of the eye they cannot be *identical* points; the object b will therefore appear double, one image being to the right of a and the other to the left. In the same way we may show that while the eyes are directed to a the object c will appear double.

What now is necessary in order that the object b may be seen single? evidently the front of each eye must be turned *outward*, so that the axes of vision may be directed to b, then the object b will appear single, since the two images at B and B' will then be at A and A', the extremities of the axes, which are *identical* points, as shown above. In the same way, in order that the object C may appear single, the eyes must be turned *inward* until the axes shall correspond with the lines c C and c C'. But these movements of the eye are made by *muscular contraction* under the direction of the *will*, and with these movements we have learned to associate the idea of greater or less distance, until we have come to discriminate distances with great accuracy. The two eyes with inconceivable rapidity run over the various objects of a landscape, constantly changing the angle of the visual axes by *muscular contraction*, according as the objects are nearer or more remote, and we form a very accurate idea of their relative distances.

We propose now to show that we make precisely *the same movements of the eye* in going over the different objects in the fore and background of a stereoscopic picture when we look at it with a stereoscope. Let us recur again to the figure (for it will answer our purpose just as well as a new one), and suppose the two eyes to represent the double camera for taking stereoscopic pictures, the two retinæ to represent the two ends of the sensitive plate, and the two crystalline lenses to represent the two lenses of

the double camera; we will now take the double picture of our three objects a, b, and c. The image of a will be formed at A and A' on each half of the sensitive plate, the image of b at B and B', and of c at C and C'. We have now got our double picture thus $\overline{C' \ A' \ B' \ | \ B \ A \ C}$. But it is evident that in one picture b will be seen at the right hand of A', as at B', and in the other at the left hand of A, as at B, and so with the object c. The two pictures are therefore very far from being alike; and in fact, we often see stereographs in which the relative positions of two objects are completely reversed in the two pictures. If now by any means, these two pictures can be seen superposed upon each other, the right picture by the right eye, and the left picture by the left eye, there will be but one point that will coincide, and that we will suppose to be the point A A'. The rest of the picture will evidently be confused. How is this confusion to be obviated? precisely as when we viewed the same objects in nature; viz., by muscular movements of the eyes, and by the *same* movements. The stereoscope is an instrument which superposes one picture upon the other. Let the lenses of the instrument be so arranged that the rays from A and A' shall fall upon the eye in the direction respectively of the axis of vision in each eye; the object a will be seen single, but all the other points will each form two images and be seen double *while looking at the object a* (or A A'). What must we do now to see the object b (B B'), single, or in other words, to direct the visual axes to B and B'? Evidently the eyes must be turned *inward*. But we had to turn the eyes *outward* to see the same object b in nature. What is to be done then? Simply cut our picture open in the middle and reverse the two ends. We shall then have the picture thus $\overline{B \ A \ C \ | \ C' \ A' \ B'}$. We now have the images B and B' *outside* of A in each picture; and hence to see the object b single, or to direct the eyes so that the rays from B and B' shall coincide with the visual axes, we must turn the eyes *outward*, precisely as we did in viewing the object b in nature. And so to see the object c (C C'), the eyes must be turned *inward*, precisely as in viewing the natural objects. We see

therefore, that in order to see the different objects *single* in the picture, we have to make the same movements of the eyeballs that we do to see the same objects *single* in nature; hence we unavoidably pass the same judgment as to their relative distance, and the illusion is complete.

It is well known that when the stereoscopic picture is taken on a single plate with a double camera, the picture must be cut open and reversed before it is mounted, otherwise, the objects in the background will appear in the foreground, and those in the foreground will appear in the background. Any one who has examined a large number of stereographs must have seen such confused pictures wrongly mounted. It is only necessary to remount them with the two pictures reversed, and the confusion will disappear.

In our reversed picture of the three objects, a, b, and c, we see that the points C and C', which represent the object c in the foreground, are nearer together than the points B and B', which represent the object b in the background, as they should be, according to the explanation I have given. And in fact if any one will take the trouble to measure the distance apart of any corresponding object in the foreground of any well-mounted double picture, he will find the two pictures of the object nearer together than the two pictures of an object in the distant background.

I think I have thus briefly explained the marvellous power of the stereoscope. While we have in the stereograph, as in the single picture, the advantage of perspective and atmospheric effect, yet that vivid illusion of reality which transports us to the spot is the effect of a mental judgment by which, with the same movements of the eyeball, we unavoidably associate the same idea of relative distance.

BAD WORK.

It is bad work to under-expose your negatives, and then intensify them. Get a full exposure when possible. It is bad to destroy good prints by over-toning. Work slowly and surely.

PHOTOGRAPHIC DIALOGUES.

(SEQUEL TO ONE HUNDRED DAYS IN A FOG,
ETC., CONTINUED.)

BY ELBERT ANDERSON,

Operator at W. Kurtz's Gallery, 872 Broadway, N. Y.

A. I DRAW with this piece of French chalk, an image on this piece of polished plate-glass, and with this cloth efface all trace of it. There! it's gone. Now fancy to yourself (for the sake of illustration) that this piece of glass represents a sensitive plate that has just been exposed in the camera, and contains a latent image; as in case of the former, it is with this, we can discover nothing, even by means of the microscope.

M. No, sir; I see nothing.

A. Yet the image is as strong there now as when first I drew it.

M. Can you prove this?

A. Certainly; let us develop it. There I breathe on it. See here.

M. That's very curious. I see it now, if anything, plainer than I did before. But as the breath disappears, the image vanishes with it; have we no means of fixing (!) it?

A. A second application of your breath reproduces the image, and this may be repeated an indefinite number of times, even after the lapse of months. A piece of glass may *appear* perfectly clean, yet by breathing upon it, all trace of impurity on its surface will at once become apparent, will, in fact, be developed, for in developing a negative on a plate which is dirty, you develop the dirt at the same time as the picture.

M. Unfortunately we do. I generally develop more dirt than picture. Thanks to you, however, I see the great importance of clean plates in future.

A. I have here a plate of polished silver, which I subject to the fumes of iodine and bromine in my dark-room. See, the vapors have combined with the silver and formed a thin layer of iodide and bromide of silver. I will now expose it in the camera. Now come in the dark-room; here is the plate, this mysterious action of light has taken place, yet we see nothing; it is like our plate-glass with the chalk image. I will not breathe on it, but I have a friend here who will. Here is a little iron box containing some warm mercury. I hold the plate over it to catch the *breath* of the mer-

cury. Watch it; see, the metallic vapor only settles upon the exposed parts, whilst the rest of the plate is unaffected. Now I put it in the hypo, which dissolves all but the picture. There; this is simply the Daguerreotype process. Now there was no *nitrate* of silver used in *this* case, Mr. Marshall.

M. That's so. In the experiment with the French chalk, we had an opportunity of *seeing* the image before it was developed; thus we know for certain it existed; but with a sensitive plate that has been exposed have we any means of knowing *a priori* of the existence of a latent image?

A. Undoubtedly.

M. Can you prove this?

A. Very easily. I will prepare a plate. There; now I will expose it in the camera to an object that is intensely illuminated (that whitewashed fence yonder, that the sun shines on so brightly). I will expose this plate ten or twenty minutes. Now let us go in the dark-room. See here! there's your image already formed without the aid of any developer.

M. Well, I declare! Have you got any more such curious experiments to show me? They take the rag right clean off the bush.

A. O, yes; come see my patent process. I prepare another plate, and, before exposing it, I will pour over it the developer, and immediately transfer it to the camera, so. It is now evident that, as the action of light affects the plate, the developer acts at the same time, and develops the picture as fast as it is produced; thus I make and develop my picture all in one operation. Come into the dark-room. There; there's your picture all done; you have only to fix it. My patent, then, consists of having a plate-holder so constructed as to get under the cloth and see your picture *printing* on the prepared plate.

M. Well, that's an idea anyway.

A. Yes. I'm going to take out a patent. What do you think?

M. Think? I think you *won't* get it.

A. Why not? There was an individual who applied for a patent for saving all silver from the waste solutions, by precipitation; yet this was done ages before the existence of the individual in question.

M. Why, of course. But he didn't get his patent.

A. Yes, he did. Oh, you needn't laugh; he really got a patent. I forget the fellow's name.

M. Oh, pshaw!

A. Thank you; it *was* Shaw. I had forgotten his name.

M. From the effect observed of exposing a plate to a bright object unusually long, and getting indications of an image, and from the effect of light on chlorine, are we led to suppose that the action of light on the sensitive plate commences an action which is afterwards continued by the application of a developer?

A. This conclusion is not unnatural, but if assumed as a fact, how will you account for the following curious experiment? I expose this plate in the camera at an object brilliantly illuminated—that church steeple yonder—for three seconds. I now develop it. See, it comes up slowly. There is nothing in the shadows. Now, all the developing in the world will fail to bring out the detail. Thus, you see, one cannot make up for too little exposure by pushing the development. Now expose a second plate eight seconds. There, you see, is a decided improvement. Now expose twenty-five or thirty seconds. See, the time was much too long, and the reduction of silver has taken place over the whole image, and fogged all the shadows.

M. It is evident, here, that the longer the time, the more rapid the development, and the more intense the image.

A. You think so, do you? Now see here. I expose this plate to the same bright object for ten minutes.

M. Ten *minutes*?

A. Yes, minutes. Now watch the development.

M. Why, dear me, how singular; there is hardly any image. What there is is thin and pale; devoid of all strength. How is this?

A. This, then, teaches us that a certain time is requisite to form the image, which can neither be shortened nor prolonged beyond the proper time; and so far as the action of the developer being quickened and violent, it actually retards it. As regards the theories of the action of light in form-

ing these images, I will state, First. During exposure of the plate one theory is, that the light *reduces* a small portion of the iodide to metallic silver, and that the action having once commenced, accelerates the decomposition when the developer is applied, and attracts the reduced silver to those parts where the reduction has already commenced. Second. The reduced silver forming the image is produced instantaneously in the camera, but before we have time to apply the developer to continue the reduction, the free acid of the bath solution dissolves, and thus destroys the delicate image thus commenced; and the longer the development is delayed, the weaker the image will appear. Thus it is necessary to expose the plate sufficiently long to reduce more than the weak acid can destroy, so that enough remains to determine the after-reduction by the developer. Third. The formation of the invisible image by light is supposed to be a molecular change (unattended with any separation of elements, such as occur in the case of a visible image impressed by light) so *modifying* the elements as to cause them to hasten the decomposition of the mixtures. We have seen that the action of light upon chlorine exercised a most remarkable effect. Why should not the iodide be similarly affected? Again, it is known that paper, floated upon a bath of bichromate of potash, and exposed to the sun, darkens, and also that the action of light on gelatin, combined with bichromate of potash, renders the former totally insoluble in water; analogous to light rendering the iodide of silver insoluble in hypo.

M. You have shown that, even if the developer contain acid, it will, in a short time, decompose the silver solution. Suppose, then, the plate has not been exposed yet to light, and is flowed with the developer, the developer kept on until the decomposition commences, and there being no impressed image to attract the metallic silver, what becomes of it?

A. Ah! unhappy man! that's well asked. I will tell you what takes place in that case: namely, a universal deposit of silver over the whole plate, known, alas! too well known to many, as *FOGGING*.

M. But why, then, does this fogging take place when there is an impressed image?

A. The image may not have been vigorous enough; and that being the case, it does not attract enough silver, consequently, pushing the development in the vain hope of bringing out the full image, the silver deposits on the shadows.

M. So, so! *that's* the cause of fogging, is it?

A. Miserable wretch! the causes of fogging are *legion*, and having got you well in the fog, I will leave you there—for a little—*wile!*

(To be continued.)

THE NEW SIZE IN CALIFORNIA.

I HEREWITH inclose samples of the new size card-photograph, not that I expect to startle you with their excellence as photographs, but in order that you may give your numerous readers the benefit of our experience. In the first place, about four years ago, I issued a few pictures of this identical size, but was deterred from pressing them by members of our craft, who believed they would retard the introduction of the cabinet, then about being offered here, so you will perceive, that when shown to me by gentlemen of New York, my mind was prepared to receive them at once. I immediately ordered suitable mounts, and on arriving home from Cleveland (July 18th), offered the new size to the public, and their success so far has been unequalled by any other style of picture presented. They meet the general want of a picture large enough to frame and small enough to be transmitted under cover of envelope by mail without injury. That they are surpassingly convenient and useful there can be no doubt. Their beauty, as is the case with other sizes, somewhat depends upon the skill of their producer. I find they elicit general admiration, and our customers are willing to pay a fair price (one dollar per dozen less than cabinets) for them.

I have not yet heard a name suggested that seems just the thing. I trust some of your readers will furnish us with one, at once easily spoken, pleasant to the ear, and convincing to the mind, so that we will not

alone be indebted to Mr. Houghton for bringing them so prominently before us, but also to the aforesaid reader for his *taking name.*

In the matter of albums to suit this size our need is pressing. Surely our manufacturers will meet this want immediately.

A few photographers of this city hold a meeting to-morrow evening. We hope to organize a local society. I shall urge it with all the powers of my mind, for I verily believe the advantage of such glorious comings together as the Cleveland Convention cannot be overestimated. Local institutions should be correspondingly beneficial, and not only disseminate useful information among its members, but foster a better feeling with photographers at large, and serve in some measure as a training school in which to prepare members for a more extended field of usefulness in the parent Society.

W. H. RULOFSON.

SAN FRANCISCO, CAL.

MR. AYRES'S DRAPERY CHART.

WE have recently received the following:

"WASHINGTON, GA., Oct. 4th, 1870.

"PHILADELPHIA PHOTOGRAPHER: I am eternally in a stew about ladies coming to my gallery, with white dresses on, to sit for their pictures. I generally tell them that in such a dress they must only expect a bad picture, but they will come again and again.

"How am I to do to have some shades in the drapery, and the face white. I am a great 'shade' man, and despise a white patch where a dress ought to be in detail.

"Would you be kind enough to give us a plain article on this point in the next issue of the *Photographer*? I think this point is only very sparsely understood by a great many photographers.

"I have over and over studied Mr. Fox's May Queen of last year's volume. I modified collodion and developer, but I am as far from it as ever. Yours truly,

"HENRY CORDES."

Our correspondent will always find difficulty in securing good pictures of parties in

white dresses. Either the face or the dress must be over-done or under-done. To get proper exposure on the dress, the other parts must be under-exposed and *vice versa*.

The best way is to procure one of Mr. Ayres's excellent charts, hang it up where all the ladies can see it, and by it learn what color of dress *will* "take" *well*, and thus be easily persuaded to adopt such when dressed for picture-taking. In this chart all colors, bad and good, are represented, and it is an invaluable accessory to the gallery. The publishers are enabled to reduce the price of this chart to \$2, and it should now be in every reception-room.

MOSAICS, 1871.

WE come before our readers with our little annual handbook, as usual, hoping it will receive the same favor it has met for the last five years.

It would be unbecoming in us to praise our own work, and we can only say to those who think of purchasing it, that we believe *it is better than any of its predecessors*.

The greater portion of the usual 144 pages is taken up with original articles, written specially for it, by a number of our best American photographers, a brief synopsis of which may be given here for general information.

First, we have a complete summary of the photographic doings of the year 1870, up to the date of publication. Then follow articles by practical gentlemen on the following practical subjects:

"The Study of Light and Lighting," by J. F. Ryder; "Ammonio-sulphate of Iron as a Developer," by J. C. Browne; "What I Know of Sitters," by J. H. Kent; "Backing Plates," by John M. Blake; "Which Way?" by George B. Ayres, author of "How to Paint Photographs," a very sensible article, intended to encourage the hard worker; "Condensed Photography," by Prof. Towler, telling the whole story of picture-making in capital style; "A Cause of Photographic Distortion," by W. J. Baker; "Sugar-coated Optics; or, What makes things Look Small through the Bottom of a Tumbler, and What makes things Look Large through a Burning-glass,"

being capital lessons in optics, illustrated with cuts, by Elbert Anderson; "The Morale of the Gallery," by Roland Van-weike; "Advice to Beginners," by J. H. Fitzgibbons, capital advice, too, from this veteran in the art; "Things New and Old," by David Duncan, full of value, and fresh; "On Copying," by I. B. Webster; "Old but Good Formulæ," by Hugh O'Neil, New York, being capital receipts for negative and print-making; "Our Shortcomings in Silver Printing," by Daniel Bendann; "Proper Lighting of the Subject the Basis of a Good Negative," by J. K. Wolowski; "Retouching the Negative, etc.," by Prof. Towler; "How to make Ferrotypes," complete and detailed instructions by Mr. A. K. P. Trask, Philadelphia, one of the best ferrotypers in the country; "The Photographer on the Fence," a story of indecision, by the Editor; "Photographic Etching," by G. Wharton Simpson, A.M.; "Doctoring Collodion," by B. W. Kilburn; "How to make a Solar Negative," by W. L. Shoemaker; "Easy Method of making Glass Transparencies," by H. J. Newton; "Inside, or the Way Out of Trouble," a series of instructions on making good work, and how to know defects when they occur, the cause, and how to prevent and cure them, by the Editor; "Photography in Cold Weather," by George H. Fennemore, practical and seasonable; "How to Print the New Medallion Pictures," by Wm. Kurtz, New York, a capital paper on that new and popular style of pictures; and an excellent illustrated article on *Skylights*, by Dr. H. Vogel, which alone is invaluable.

In addition to these, a great number of other practical articles on various subjects, which are extracted from foreign sources—English, French, German, Dutch, and Russian—which have never appeared in print before, a full list of which will be found in the advertisement, which please see.

Such as it is, we present it to the fraternity, hoping it may prove acceptable. Our chief endeavor has been to make it *useful*. How far we have succeeded, those for whose profit it was compiled must be the judge.

Quite fifteen hundred copies have already been sold to the dealers.

The Monogram Trade-mark of the National Photographic Association.

AT the meeting of the Association in Cleveland last June, the Secretary was instructed to provide a monogram for the use of the members upon their card mounts, business cards, letter sheets, bill-heads, envelopes, etc., as a *trade-mark*, to distinguish their work from that of others. Accordingly requests were made in these pages for designs not only from the members, but the best designers of monograms in New York and Philadelphia were employed to furnish several designs for selection. Over a hundred, we think, were furnished and presented to the Executive Committee, and the engraving below represents the one finally adopted. It is mainly after a design by



Mr. E. F. N. Stent, of New York, amended somewhat by others. It has been copyrighted and assigned to the Association, and is now the property of the members, each one of whom will receive, before Christmas, a handsome certificate of membership, and license to use the trade-mark, with the monogram on one corner, elegantly engraved by the American Bank Note Company, Philadelphia. It will be of a size suitable to frame (about 6 x 10), and every member will be proud to display it in his gallery, no doubt, as it will ornament any of them.

Each new member will be supplied with a copy on being entered as a member.

The engraving above is on wood, copied from the steel plate, and is the handiwork of Messrs. Crosscup & West, Philadelphia, who make most of the drawings in our Magazine. As will be seen by their advertisement, these gentlemen are now ready to supply electrotypes of various sizes to all

who need them, at a low price. All stock-dealers will have them to print on cards ordered of them, and those who get their printing done at home will, of course, supply themselves with electrotypes.

The Association will protect its members in the use of this monogram, or any variation of it, and all infringements should be promptly reported to the Executive Committee. It is entered according to Act of Congress in the Library of Congress, and, therefore, protected property by law. As Secretary, we thank the following gentlemen for designs, some of which are very tasty and elaborate: Messrs. J. H. Scotford, O. Lewin, E. Decker, H. H. Guild, S. J. Miller, G. W. Edmondson, W. H. Kibbe, J. H. Wyckoff, T. H. Taylor, C. Burns, F. A. McDowell, Crosscup & West, Miss Jessie Curtiss, and one other without name.

The choice made was thought to possess the most merits of all. It is original and fresh in design; is neat and bold; easily recognizable anywhere, even at a distance, and can be reduced or reproduced with ease and without deterioration, by means of lithography, wood engraving, or photography itself. It looks best printed on black when well printed. The monogram in black with the name and address in gilt, or a warm brown, would also be a pretty combination for the back of cards. Any delicate shade will harmonize with it.

We earnestly hope it may give both pleasure and pride to those for whom it is designed.

LETTER FROM THE COUNTRY.

"Rembrandts."—*Ross Lenses.*—*Hovey's Paper.*—*"Moonlight Pictures."*

DEAR JOURNAL: What is it about "Rembrandts?" Sphinx wanted to know, and was told by one that they could not be made by photography; by another, that they had been described in a certain No. of yourself. "Old Foggy" don't like them. Good authority objects to the name. Meantime the public is paying for them, and congratulating itself on "being took beautiful, that never did take a good picture before."

All this is a little confusing, so I asked

my friend the painter about it. He said, Rembrandt painted with a single point of high light, to which all the rest of the face was subordinate, the greater part being in deep shadow; and he brought me a copy he made from an original Rembrandt: there it was, a point of high light, all the rest shaded.

Now we have a definition, let us see if the photographs meet it. Not many of them truly. The point of high light is very broad; the shadows have become half tints.

The photographic Rembrandt is now, nothing but a face taken on the shaded side; it used to be called the wrong side. This has always been done to some extent; now it is the rage. Applied to these pictures, the name is clearly a misnomer. Is it too late to change? I fear so.

It is quite possible to produce a true Rembrandt effect in a photograph, as true as if one of his paintings were engraved. A portrait done in oil from such a photograph, would be recognized by any painter as a Rembrandt, as indeed, artists (painters and sculptors), recognize the photographs to be such.

In this connection I must take issue with my friend and neighbor Mr. Ayres. I regard the shadow picture as particularly suited to the delineation of white drapery, and recommend it, sometimes to the disappointment of my sitters, who say that they like to have white, white in the photograph, and that their dresses are too dark. To such people explanations are useless; they see only streaks and spots, where the cultivated eye discerns lovely shades. It is impossible to convince them, that in a picture the shirt bosom ought not to be whiter than the face; they want everything "natural." To suit them one must run a race with his Maker, in which we are sure to be beaten. They expect us to put on a few inches of flat paper, what the Almighty uses the whole arcana of the universe to accomplish. In the early stages of my art endeavors this was my aim, but it is some years since I retired from so unequal a contest.

Writing from the country you must let me ramble, and I desire to say a few words about the unqualified excellence of some *Ross lenses* Wilson, Hood & Co. have sent

me recently. They are as good, perhaps a little better than the best. Very rapid, they shorten the exposures some seconds this dull weather, while they have one notable feature,—parts that are unavoidably out of focus, as masses of hair, are still agreeably rendered, and preserved in intelligible variety of light and shade. This is most difficult to do with quick-workers, but the Ross does it perfectly. Equal with the portrait are the view lenses. The short focus ones are wonderful for their field and delicate delineation. Still the puzzle remains, how to use them. A lens of two and a half inches focus takes a large building very small, a great way off, and sets it on the top of a hill. Interiors it lengthens and widens in the foreground. Nor does the stereoscope correct these faults, which inhere in the shortness of focus, as compared with that of our eyes; not in the width of angle or construction of the lens otherwise. They have a legitimate use though, which is only where the desired objects cannot possibly be included by a longer focus lens, removed to a greater distance. In the city one often finds himself so cornered. Lenses from five to ten inches focus give us pictures as the eye conceives of them. Six inches is the standard for stereographing in the country.

When the negative is perfect the enthusiastic operator is anxious to see a proof. He wants it on paper of a fine grain, good gloss, that will print strong yet keep all that is in the negative, and tone, warm, soft, and brilliant. Such we have made by Hovey, who has beaten the Dutch (on paper). He would have been invaluable to the maker of French war dispatches, but is so modest that I don't suppose Napoleon ever heard of him. Still, it is superfluous for me to praise him. All photographers know him by his works. The dealers say his paper has but one fault, it don't keep. Hot or cold, wet or dry weather, it is all the same, but this is before silvering, in the stock depot, that I mean. After it is silvered it can be packed away for two or three days, or by and by, in the winter for a week.

Seriously, Mr. Hovey got on his metal about the time that German manufacturers had a run, and has greatly improved his

before satisfactory paper. It is now *par excellence*, and he tells just how to work it, right on the cover of our Journal.

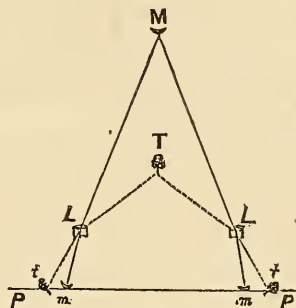
Your correspondent has been reading about Robinson's moonlight picture, which some critics assert is a view exposed and taken by moonlight. This idea is not for a moment tolerable. The picture is an instantaneous one. Now the light that the full moon sheds on a landscape is many thousand times less than that of the sun, and the only picture that can be taken by moonlight is her own face, and that is really done by sunlight, *i. e.*, the sun's rays reflected from the moon.

I have not seen the picture in question, but from the description fail to see how it differs from the quasi "moonlight" stereographs of Niagara, which are made in quantity by Bierstadt, Curtiss, and others, at the Falls.

A day with floating clouds is selected. When the sun is low, hanging over the water, the camera is pointed to the light. At the moment a cloud passes over the sun the exposure is made, the result is a moonlight effect. The clouds near the sun are brightly illuminated, and a wake of light is in the water. A moon, if required, is painted on the negative.

Some of these are very good. The heavy shadows and sharp lights, with a general faint illumination, make fine Rembrandts, and simulate moonlight extremely well. But when closely examined in the stereoscope, sometimes a curious defect is apparent. The moon seems very near, quite over the foreground. This is caused by the two images of the moon being in the mounted stereograph too far apart, which is easiest shown by a little drawing. A tree near by must throw its images further apart on the negative than the distant moon, and as the picture taken by the right-hand tube is placed for the right eye on the mount, and similarly the picture by the left tube goes to the left eye, the relative positions of the pictured moon and tree remain as in the diagram, to wit: P P, the plate. L L, the lenses. M, the moon; *m m*, image of the moon. T, the tree and *t t*, the image of the tree.

Most likely Robinson's picture, being large, has a genuine photograph of the moon printed in. It does not seem too



much to assert that the photograph called "First Hour of Night" was produced substantially in the above way, and, indeed, could have been made in no other. In which opinion, no doubt, Mr. Robinson will in time confirm us.

But my rustic Pegasus says *neigh* to further rambling at present.

W. J. BAKER,
Buffalo, N. Y.

On the Acceleration of Exposures in the Camera.

BY M. CAREY LEA.

THE subject of the modification of the camera image, by the admission of extraneous light, is attracting more and more attention. Having made many trials of the system which I lately suggested, since my publication on the subject, I return to it here, the rather, as I think, that some of the views taken upon the question, by those who have written on it, are not quite accurate.

The idea of admitting white diffuse light upon the image is known to be quite old. Cameras lined with white were occasionally used some fifteen or twenty years or more ago. Mr. Gage proposed a plan, and I believe patented it, of exposing the lens for a few moments, either before or after making the picture, to a surface of black velvet. Mr. Blair revived the white lining plan. But a more important contribution to our knowledge was made by M. de Constant de Lessert, who experimented with separate

slips of card-board, and thus ascertained the advantage of limiting the extraneous illumination to particular portions of the image. His experiments have been more particularly directed to portraiture. Next M. Bazin inserted red cells into his camera front, availing himself of the peculiar advantage of red light.

My own share in the work has consisted in applying this principle, and using red light to a local use instead of a general, by inserting pieces of *red card-board* cut to a particular shape, into the camera. In M. Bazin's plan the red light fell on all parts of the image equally or nearly so. This is undoubtedly an incorrect principle. It is of the highest importance that the assistant light should be made to act where it is wanted, and not where it is not. I have also sought to determine the general principle by which we should be guided in applying this aid to landscapes. The following are the conclusions which I have reached:

A red lining, covering the whole inside of the camera, is not at all to be recommended; a white one is still worse. Any plan that extends the red or white illumination over the whole image is radically bad. Any device that tends to throw the strong light from the sky over the rest of the image injures it; if allowed to act to a small extent it causes flatness, to a longer one fog. Therefore the red pasteboard should be applied only against the top of the camera, and should extend downwards as much only as may correspond with the object, and should in no case extend so far as to come opposite the sky, or any portions of it. To accomplish this, I take a piece of white pasteboard of sufficient length, and bend it twice across, so that the middle portion fits against the top of the inside of the camera, and the sides extend down the sides of the camera and rest against the bottom. These side pieces are cut tapering, so that where they touch the bottom they are about an inch wide. The inside of this pasteboard is colored pale rose color, with a *very* weak solution of carmine in water, to which a trace of ammonia has been added. The lower ends of the sides, which may be supposed to come opposite the sky portions of

the image, are blacked with ink. As there is very generally more sky at one side of a landscape than the other, I carry the blackening an unequal distance upward on the two side pieces, making one black for about two-thirds of the space, and the other for about one-third. These may be made to correspond to either side of the camera, as may be wanted, by removing the piece and turning it one-half round, and replacing it, the other side foremost, in the camera.

Used in this way I have found the application most useful in certain cases. Where the foregrounds are badly lighted, the red card-board is extremely useful, as also where there are masses of foliage to one side of a picture more or less imperfectly lighted. On the other hand, where a picture is brightly lighted throughout, especially where the foreground gets a good clear light, it would be a mistake to use the accelerating cards.

Such, at least, has been my experience. I now always take these cards with me in going out to photograph, and use them very frequently and with satisfaction. What I say in favor of the system is based upon a very considerable amount of experience, and I would be sorry to give up what I find to be a really valuable aid. The latest suggestion in connection with this subject, is Mr. Griswold's idea of a translucent diaphragm. This is a convenient way of operating, I should judge, but I have not tried it, because it is liable to the same objection of throwing the light over the *whole surface*, whereas, as I work, I can compensate by the card for unequal illumination, at least to some extent. And this is, in my opinion, the principal attraction of the whole method, except, indeed, where instantaneous or very rapid exposures are wanted.

It is a good plan to have an extra piece of card, painted entirely black, so that when either side of the picture does not need any helping, but is better without, then this black shield may be laid against that side and completely cover that part of the red card.

From my own experiments, I am inclined to believe that this idea of using extraneous light is really useful. When well managed, it does not, as might be imagined, tend to

fog, or veiling. And I think that it will in future be adopted by many photographers. But I must repeat what I have said before, that all methods which distribute a strong light in all directions, do so at the expense of the brilliancy of the picture, and therefore do not deserve adoption, except, as already said, for instantaneous exposures.

It should be well understood, that the influences of red and of white light admitted to the camera image, differ radically.

First, as to white light. Let us suppose that the very faintly lighted parts of the subject receive a light, which, when compared with the most strongly lighted, is as one to fifty, whilst there are some portions of absolute shadow on which the light may be represented by 0. Let us also suppose that the light, of which the intensity is measured by 1, is so weak, that its image cannot be developed at all. It is then evident that these very faintly lighted parts will appear as absolute shadows, and thus there will be a certain deficiency of detail in the shadows.

If now we admit a faint light all over the picture, the intensity of which faint light is equal to 1, the whole relations will be changed. The intensity of the very faint parts will be raised to 2, at which point they may be supposed to be developable. The absolute shadows receiving previously 0 of light, will now receive 1, but, by supposition, this amount is not capable of development; they will, therefore, remain absolute shadows. The highest lights will receive a strength of light measured by 51, scarcely an appreciable change. With intermediate degrees the effect will be intermediate.

Evidently the effect here is altogether beneficial. *Unfortunately we cannot command this exact portion of light; we cannot be sure of not admitting more or less. And if more, then the shadows become grayish instead of rich black; if less, we miss our object.*

With a pure red light, the case is altogether different. With it, we enhance the action of the lights, *without acting upon the absolute shadows.* We, therefore, increase the detail in the shadows without taking

from their richness and brilliancy. Whilst the white light tended to soft, flat pictures, the red tends to soft, brilliant pictures, and no one can hesitate where to award the preference.

And further, when we localize the effect by placing the red card board against such portions of the interior as correspond with parts of the image imperfectly lighted, we get a double gain, more softness and more harmony, we tend to avoid harshness and crudeness, and to escape those vexatious images of which one part refuses to come out until some other part is over-developed.

For portraiture as well as landscapes, this mode of operating will have evident advantages in gaining softness without sacrificing brilliancy. Where the lower part of the figure, or the side farthest from the light, needs increased light, a lining corresponding with those portions, of red card-board, will be advisable. Or if the object be simply to gain in rapidity, the whole interior may be lined, or any other device may be used to admit red light over the whole image.

PROCEEDINGS

OF THE

Executive Committee of the National Photographic Association.

THE regular quarterly meeting of the Committee was held at No. 36 Park Row, New York, October 31st, the chairman, Mr. W. Irving Adams, presiding, and present Messrs. Bogardus, Wilcox, and Wilson.

Mr. J. F. Ryder reported \$27 more, as the proceeds of the sale of lumber used at the Exhibition.

The Treasurer was ordered to notify all those in arrears for dues, Jan. 1st, to pay same, the requirements of the Association making it necessary to have the funds in hand. It is hoped that all who *are* in arrears will pay promptly, and thus aid the Executive Committee in furthering the interests of the members of the Association.

The Secretary exhibited the designs for monograms, and model of certificate of membership and license combined, for acceptance and selection.

A design was selected and the Secretary authorized to have it engraved by the American Bank Note Company together with the certificate, and to furnish a copy to all the members of the Association not in arrears.

The Secretary was authorized to arrange for a more extensive display of foreign work at the next Exhibition.

President Bogardus was appointed a committee to prepare a plan for the systematizing of the business at the next annual meeting and report. Other matters of importance were transacted, which will be hereafter stated.

EDWARD L. WILSON,
Permanent Secretary.

DIFFICULTIES OVERCOME.

BY PROF. J. TOWLER, M.D.

THE general delights to recount the particulars of his evolutions, by means of which his victories were obtained; the civil engineer hangs over his maps, examines and re-examines the plans containing the incipient conceptions, the subsequent modifications, and the final perfections, that spanned Niagara with a gossamer bridge, or printed the words as transmitted by the electric fluid across the Atlantic; and so it is with the photographer in his small way, but no less noble art. He frequently encounters difficulties that vex and annoy. And does he not rejoice? Does he not triumph, as trouble after trouble is understood and obviated? As victory after victory is gained? The experience of each advancing, progressive photographer would be an excellent guide-book, if recorded, for subsequent followers in the same sphere of action; and we lose a great deal of valuable information, because most of our most practical men in the art are shy when they come to commit their practice and victories to paper, or too modest to aspire to that eminence where their full names stand out in print. I wish it were otherwise, for I want to learn from you. I respect your experience, and admire your success. In fine, we all need each other's assistance and co-operation. Each of you has, doubtless,

some ingenious *sleight-of-hand* manipulation, by means of which something useful can be accomplished in a quicker and better way than we can do it. It is your duty, for value already received, to reciprocate, and send grist to the mill from which you have so often drawn your aliment.

I, too, have often met with difficulties, and some of these still baffle all attempts to obviate them, consequently it is no use to record these; but I will enumerate one, and form out of it the subject of the present article.

For instance, a young lady—of course, a handsome lady, one versed in novels, moving in the midst of diplomatists and foreign ministers of state, an admirer of Madonnas and fancy positions—entered the studio, and described a picture she wished to represent. She was to appear languid and poetic, sweet, lovely, thoughtful, easy, careless, ideal, artistic,—in fact, all the epithets of aesthetics were exhausted in the description. "You think me vain and a goose," she finally added; and this made her more lovely and characteristic than ever. Now, to make a photograph that would come up to her expectations in all these respects, would be almost as difficult as to accord with the desire of a romping "little girl," that once (before photography were known) desired to be drawn "making a noise." But this was not all. The *young and beautiful* lady had a splendid white lace veil thrown carelessly over her head, drawn into graceful folds by means of a small bouquet of living flowers on the crown of the head; a similar collection of rosebuds closed the folds of the veil on her chest. The flowers, the leaves, the pattern of the lace, the flowing masses of hair; of course, the eyes, the mouth, the cross on the panting—what shall I call it?—breast, chest, zest,—all these had to be in focus, sharp, crisp, well defined, such as the artist would make them with the limner's magic touch.

Now, the difficulty which I encountered was this: The contrast between the prominent white lace veil and the complexion enshrouded within its folds was so great, that if the exposure was right for the latter it was altogether too long for the former. Repeated trials were all in vain to attain to

a happy medium, the "*media via qua tutissima est.*" The veil on the negative was a black mass, without detail, textureless, and without pattern, if the face turned out successful; but the features were imperfectly modelled by light and shade, altogether too thin for printing purposes, if the veil were in the right condition for printing.

Now, it was utterly useless to make any further attempts to gain the end desired, either by change of position or modification of light; and I finally concluded to take a negative exhibiting the veil of a proper negative density for the printing operation, and then to work up the shades of the face by retouching. This seemed feasible. Consequently our artist was set to work to stipple in an extra amount of shade on the features, neck, and chest, so as to make a working negative. There was, in fact, no difficulty in attaining to the requisite density; but when a print of the negative was taken, there was something about it which did not appear quite right. The lights and shades were evenly blended. What was the trouble? The likeness itself had suffered, how and where it was hard to tell; but the print did not represent the living object. This retouching, therefore, was a failure. Another negative was taken, and the retouching was again commenced with more care; but the result was the same—a failure. I must mention here, too, that the stippling of the shades produced in the print a similar stippled granulation, which deprived the print of its photographic character by destroying the mezzotint.

I was almost in despair. What was to be done? To give up and be vanquished, to acknowledge one's self beaten in the midst of health and strength, and on the very threshold of success! To see, too, one's reputation at stake! This could not be. Rise, and gird up thy loins; start again manfully. A third negative was taken, precisely similar to the two preceding; and the mode of proceeding was as follows:

After varnishing and retouching all minor defects, a print was taken, in which the exposure was rather long, in order to get perfect delineation of the pattern of the lace veil. The shades of the face, by this

long exposure, were altogether too dense. The print in question was on plain paper; it was toned, fixed, and washed in the usual manner, then thoroughly dried. Then, with a fine-pointed and very sharp knife, the face, neck, hair, and flat part of the bust, which was visible, were cut carefully out in one piece, taking great precautions to follow the extreme outline without encroachment either way. This piece of paper was next placed on a smooth piece of cardboard, and passed between the rollers. It is finally placed in contact with the negative itself, and kept in place by means of a mere point or two of wax on the edge here and there. Care must be taken to place it in accurate superimposition, so that the nose of the print, as well as the eyes and every other part, are in exact correspondence with the similar parts on the negative. If you now examine the combination, you will easily descry that the transparent parts of the face (negative) are much less transparent than they were, by reason of their being backed up with the shades of the print. In this way the negative can be entirely or partially neutralized, according as the print is made more or less dense in its shadows. We will suppose, in the present instance, that the negative is not thoroughly neutralized, but that a slight outstanding negative effect still remains; it is evident, then, that if we place the negative, so prepared or modified, on a piece of sensitized paper and expose it to the light, the result will be a print of the veil and all other parts external to the piece cut out, whilst the parts beneath the paper shield will be only partially impressed or not at all. When the print is so far advanced, it is raised from the negative so far as to permit the paper shield to be removed from the face of the negative; the little remaining patches of wax that may perchance be visible are also carefully rubbed off, and then the print is again brought into apposition with the negative and exposed afresh to the light. There need be no fear of disturbing the proper superimposition of the print, as long as the shielded part of the negative lies wholly above the middle line that divides the back of the printing-frame. Since the face part of the negative was

much too transparent, or more transparent than was necessary, it is evident that the features will soon be printed sufficiently, whilst the remaining parts already printed will scarcely have changed. In this way the *difficulty in question* was totally overcome, and a print obtained which, for softness and vigor, could not be surpassed.

I may remark, too, that a certain amount of retouching may be effected by means of a black lead-pencil on the paper shield. For instance, the hair in the negative was but indifferently defined, by reason of a too short exposure and imperfect development; but the masses of hair were easily divided up into minor locks, and even straggling fibres here and there introduced in pencil, which kept back the light sufficiently to produce quite the desired effect.

Although this method may not supersede retouching, it will produce artistic effects that cannot be approached by the latter method. It is a method, too, fraught with no, or at least with but very little, difficulty, requiring much less time to fix the negative each time for a new print than it does to read the description of doing it. The results, too, if you compare them with those produced by the unaided negative, are superb and satisfactory.

NOTES IN AND OUT OF THE STUDIO.

BY G. WHARTON SIMPSON, M.A., F.S.A.

Reproduction of Negatives—Revolving Backgrounds—Preliminary Coating for Glass Plates—Retouching Varnishes.

Reproduction of Negatives.—Is it not a little surprising that so little success has, as a rule, attended efforts for the reproduction or multiplication of negatives? And is it necessarily so in fact? There are few things within the ordinary range of photographic operations which would be more desirable than a simple, easy, and certain method of effecting this. At first sight, it might naturally be imagined that such an operation ought not to be very difficult, for reasons which *seem* obvious. It is quite possible to produce, either by contact printing or by camera printing, a perfect transparency from a negative; a transparency

with every point of detail, gradation, and definition satisfactorily rendered. It ought not to be difficult, by precisely the same method, to produce from that transparency another negative equally good. But somehow the operation generally fails; with rare exceptions, all reproduced negatives I have seen have been unquestionably inferior to the originals. As a rule, the reproduced negative has been flat and hard; it has lacked at once modelling, delicacy, and brilliancy. From some cause, difficult to trace, there is generally a loss of gradation; there are fewer tones in the picture; the delicate half-tones, which surround points of high light in the original, are lost; high light, and the tender tones surrounding it, are merged into one gray tint; and, in like manner, the reflected lights and half shadows are merged into each other, and lost in masses of black if the picture be brilliant, or of gray if the aim have been to keep the picture soft.

In many cases, I believe that the chief source of failure is the use of an unsuitable transparency. There is a temptation to use a transparency which is as fine as a transparency for stereoscopic or lantern purposes, whilst nothing can really be more unsuitable. In my own experience, a very fully exposed transparency is necessary in reproducing negatives, a transparency which looks hopelessly opaque for lantern purposes. Some of the finest reproduced negatives I ever saw were produced from transparencies by the Woodbury photo-relief process.

But I am now going to describe some results in reproducing negatives which, whilst by far the finest I have ever seen, were produced from the most unpromising source which can be conceived. The originals were a series of ten by eight prints in the last stage of fading and jaundice. They were views in the Crimea during the war, the whereabouts of the negatives of which was unknown, and, as copies were required, it was necessary that they should be, if the feat were possible, reproduced. I must confess that I should have regarded the task as too hopeless for an attempt. The photographic staff of the Royal Arsenal, consisting of non-commissioned officers of the Royal Artillery, under the direction of Mr.

Pritchard, were, however, courageous enough to make the attempt, and with a degree of success quite beyond hope, and almost surpassing belief. I will briefly describe the method employed.

The faded yellow prints were unmounted, and washed, to remove the adhesive material. They were then dried and waxed, to render them transparent, as calotype negatives would be treated. These faded prints thus treated were used as the transparencies from which the negatives were to be printed. The negatives were produced from the transparent prints, not in the camera, but by contact printing on collodio-chloride of silver, the simplicity of the operations only being exceeded by the perfectness of the result.

The collodio-chloride of silver employed was a sample which had been mixed six months, and had become much discolored, but was found to be none the worse for actual use. To secure perfect adhesion, the plates were coated with very dilute albumen, the white of one egg in about eight ounces of water being employed. The prepared plate having been coated with the collodio-chloride, the sensitive surface, after drying, is fumed with ammonia. A very simple and efficient method of fuming is adopted. The plate is held over the mouth of a bottle of strong liquid ammonia, and moved about until the whole surface is brought in contact with the fumes. The completeness and evenness of the result is easily seen, as the surface of the sensitive film, which is bright before fuming, becomes dull after that operation. The waxed print is then placed in contact, and the plate is exposed and very deeply printed, the time given being about three times as long as would be given for an ordinary print. The image so produced possesses all the detail of the original, but lacks printing force as a negative. This is obtained by means of an intensifying solution similar to that occasionally used for developing collodio-chloride pictures. The solution is prepared as follows:

Gallie Acid, . . .	75 grains.
Acetate of Lead, . .	50 "
Acetic Acid, . . .	2 drachms.
Distilled Water, . .	20 ounces.

This solution should be filtered, and a few

drops of a twenty-grain nitrate of silver solution added just before use. The solution is applied to the plate in the dark-room, just as in the wet collodion process. The image will be seen gradually to acquire intensity; but it must be borne in mind that the image, when dry, is much more vigorous than when wet, and also that it possesses a very non-actinic color; hence, care must be used not to over-intensify. The plate is finally washed, and fixed in hyposulphite as usual.

The printing quality of the negative thus produced is unusually fine, the proofs produced being at once delicate and brilliant, full of detail admirably defined. They are, it is scarcely necessary to say, infinitely finer than the faded prints from which the negatives are produced; but it may seem paradoxical to say that they are probably finer than the original prints ever were, as, with the same detail, they seem to possess more vigor than the original prints have ever had. One circumstance is very curious and interesting. In some of the original prints the extreme distance consists of a sea, represented in the prints by a faint, uniform flat tint of faded gray, with a few specks and irregularities in the tint. Oddly enough, these specks and irregularities, without form or suggestion in the original, are found in the prints from the reproduced negatives to be shipping, with masts and cordage well made out.

Altogether this is the most promising experiment in the reproduction of negatives I have met with, and suggests that collodio-chloride, printed in contact with good transparencies, and then intensified, gives the greatest promise of success in this direction. To attain perfect satisfaction, the same experiment should be tried with portraiture, which is the crucial test in such matters, inasmuch as nothing demands such perfection and delicacy of gradation, and at the same time the contrast involved in a large scale of tones, as the human face, and the multiplication of negatives is often of vital importance in portraiture, where a large number of prints become necessary for publication purposes.

Revolving Backgrounds.—One of my correspondents, Mr. W. R. Holyoake, whose

card-mounts you know, having read in the *Photographic News* your recent notice of the revolving background, introduced by Mr. C. W. Motes, of Athens, writes to me to the following effect: "It is not my intention to rob this gentleman of any laurels that may be due to him, but simply to mention that I made a similar background in 1858, and have modified it and used it ever since. The modification is as follows: Instead of its being a 'circular background,' it now only works half-way round, or less, as the case may be, by a pendulum. It is made with four arms, about four inches apart, graduated with a light color (or a darker one than the background) from the bottom to the color of the background at the top. Thus, by setting it in motion, you get a graduated shadow on one side of the head, and thereby save time and trouble in 'wooling' the negative during printing."

Preliminary Coatings for Glass Plates.—The advantage of preliminary coatings in securing clean plates appears to be extensively recognized, and the use of dilute albumen for this purpose is largely and successfully used. We have recently introduced into this country a secret preparation under the name of "tunicare," intended to answer a similar purpose. The use of this solution has been adopted by many photographers, and it has received general commendation. A short time ago Dr. Schnauss published an analysis of a bottle of "tunicare" which he had obtained for examination. He found it slightly acid, but the analysis presented him with nothing but albumen, water, and alcohol. In referring to this, I ventured to suggest that alcohol in any large proportion will generally coagulate and precipitate albumen from an aqueous solution, and that some special treatment must be used or some other material added in the preparation of "tunicare." A correspondent recently sends me a recipe for a good substitute for "tunicare," which tends to confirm Dr. Schnauss's description of the solution, as the only addition made by my correspondent is a little acetic acid. He makes his preparation as follows:

Thoroughly beat up with a wooden or silver fork the white of one hen's egg with the following solution:

Distilled Water, . . .	2 ounces.
Spirits of Wine, . . .	1 ounce.
Glacial Acetic Acid (previously mixed), . . .	3 drops.

Bring the whole to a good froth; set it aside for the night; next day filter it into a clean six-ounce bottle, and fill up with filtered distilled water three ounces. This is said to answer very admirably as a preliminary coating.

Retouching Varnishes.—Amongst the many methods which have been proposed for securing a mat surface on the negative to facilitate retouching with a lead-pencil, one of the simplest has received very little attention. It consists in the use of a thin spirit varnish, applied with very little heat. An ordinary good spirit varnish is diluted with spirits of wine, the proportion added depending upon the original strength of the varnish. About one ounce of spirits of wine to two ounces of varnish will generally serve. The plate is warmed, and the varnish applied; but after application the plate is not again held before the fire, but allowed to dry spontaneously, or rather with the aid of the amount of warmth the plate received before varnishing. This is just sufficient to prevent *chilling*; but instead of drying, glossy, and bright, the varnish dries with a dead surface, which permits pencil-working with facility. As a rule the surface is sufficiently protected by this coating, without any second varnishing.

GERMAN CORRESPONDENCE.

Photographers and War—Effect of War on Photographic Industry—Obernetter's Printing Process—Cracking of the Film and the Remedies to Prevent it—Dissolving of the Film during Varnishing—New Experiments on Cotton.

AT the moment when I seize the pen to render you my report on photographic novelties, the thunder of cannon strikes my ear, and the cries of victory are sounded through the streets. Flags are thrown to the breeze. Another great event has taken place in the world's history. *Metz, the bulwark of France, has fallen.* It is with difficulty that, in the face of these events, I can

preserve the necessary composure which my peaceable reports require. But even those who only passively look on this struggle have reason to rejoice. 300,000 people, besiegers and besieged, are now relieved of their toils, fatigues, and hardships; and amongst them is one of our best photographers, well known by his works in America. I refer to our friend Petsch, of the firm of Lœscher & Petsch. For nine weeks he has camped without shelter on the wet clay, until his own form had impressed itself in the soil. Instead of a photographic tube, he was obliged to level a needle-gun on his fellow-men, and often enough was he himself the target for a Chassepôt. We will hope that for him the worst is over. He enters Metz as one of the victors; perhaps he will meet there another representative of our art, Tessie du Mothay, who was born and lives in Metz. Although the discussion of current events is not the object of my letter, still I cannot ignore them entirely, for in the realm of photography their influence is felt everywhere. Paris, the central point of industry, and particularly of photographic industry, has been cut off from the outside world for more than a month. French frames, French dishes, French envelopes, French passepartouts, and the thousand articles that may be mentioned, cannot be had any longer, for the source is closed. No wonder that, under these circumstances, in other localities, the most strenuous exertions are made to fill the void, and here in Berlin an impulse has been given to the manufacture of these articles which is astonishing.

The French themselves have helped us a great deal to transfer these branches of industry from France to Germany. They expelled all the Germans from Paris. These men were generally intelligent and skilled artisans. Thousands of them have found a refuge here. They transplant the Parisian industry to Berlin. France has done itself great injury by this expulsion.

The well-known Romain Talbot, formerly of Paris, has established here a house for the export and import of photographic articles; and when we consider the extraordinary activity here, one is almost led to forget that there is war; and the longer the

war continues, the more firmly will these new branches of industry become established, and France strikes to its own commerce the most severe wounds by a longer continuance of the war.

A very important chapter in photographic discussions for the last year has been the *Lichtdruck* or Albert's printing process. At present a great deal is said and written about it, since the well-known Obernetter, in Munich, has opened a printing establishment for this process, which, in fact, yields surprising results. I have prints in my possession which are in no way inferior to a silver print; and that it is no longer an experiment, is shown by Obernetter's price current. He agrees to furnish 1000 cabinets for \$30; on glazed paper for \$40 in greenbacks. The process has not been published, and Mr. Obernetter declares in his price list that he has no inclination to take scholars.

In your last letter in the *Photographic News* you wrote to our friend Simpson about the cracking of the film, an evil which here, as well as in America, has destroyed many fine negatives. I have made many experiments to ascertain its cause, and made recently a curious discovery, which, perhaps, will lead to the prevention of this fatal cracking.

I observed cracks on some of my Aden negatives, and was surprised to find that they only showed themselves on the spots that had not been retouched, while all the other parts which had been treated with India ink on the varnish, even in the slightest manner, did not show any injury. In some places the cracks extended to the retouched spots, and stopped as if cut off. It became necessary to establish what ingredient of India ink exerted this beneficial action. My first thought was gum, and applied at once a solution of one part gum to forty parts water, on a plate which showed a tendency to cracking. This wet application had, however, the contrary effect; the film split beneath it. I now tried to lay the solution as nearly dry as possible on the plate, by taking the solution in a brush, pressing the brush on blotting-paper to remove all excess of moisture, and then I painted with it two negatives, which likewise showed this

fatal tendency. These two negatives have remained undisturbed during my stay in America, and on my return I examined them carefully. *The places not covered showed many cracks*, while the balance of the plate was perfectly clear of them. The coating with gum had prevented the extension of the cracks. It is not my intention to recommend, on the strength of this experiment, the gumming of all plates; on the contrary, I would advise only to resort to it when the plate shows already a tendency to cracking; and if some have already appeared, a slight rubbing over with lampblack will remedy it.

On another annoyance, which is very widespread, I read in your October issue, page 349, in the report of the Pennsylvania Photographic Association, that the film seemed to be eaten away under the varnish the moment it was applied. It was said that imperfect washing had caused this failure. The failure is, according to my experience, caused by something else; it is the actual dissolving of the film under the varnish. There are kinds of cotton in the market that will dissolve in alcohol, and also in varnish which is made with strong alcohol.

I observed this for the first time in 1864, in a gallery in this city, where all negatives were destroyed on applying the varnish. The photographer was almost in despair. When I had discovered the cause, the remedy was easy. I diluted the varnish with one per cent. of water, and warmed it, to redissolve the precipitate. Varnish treated in this manner works excellently, and without any danger to the negative.

In a letter which I wrote for your May number, page 163, I referred to a curious discovery of Camuzet, in Paris, who stated that gun-cotton contains a substance soluble in water, which in some specimens amounts to fifty per cent. and more. Camuzet demonstrated this by diluting plain collodion with five to ten times its quantity of water, when part of the cotton would be precipitated, while another part remained dissolved.

Joerster, in Vienna, proves that the part which remains dissolved is smaller in proportion to the quantity of water used in

diluting the collodion. When fifty times the quantity of water is employed, nearly all the originally employed cotton will be precipitated. Herr Joerster does not consider the statement of Mr. Camuzet very reliable.

I have repeated these experiments, and came to the conclusion that the cotton precipitated by diluting plain collodion with water, is much purer than the original article. We know from experience that very often homœopathic quantities of foreign bodies in the silver bath, or in the collodion, are sufficient to make them useless. Such substances, even in the smallest quantities, as nitroglucose, are invariably side-products in the manufacture of gun-cotton. By precipitating plain collodion with water, these foreign bodies are dissolved, and can be removed by washing; and the washed precipitate gives, when dried and redissolved in alcohol and ether, a collodion which shows, on being mixed with the salts of iodine, peculiarities, it turning yellow at once, while other collodion remains white, and only turns yellow, and finally red, after some lapse of time. The former retains its original yellow color unchanged.

I am still experimenting on this interesting subject, and shall send you further information in the future.

Yours, truly,

DR. H. VOGEL.

PENNSYLVANIA PHOTOGRAPHIC ASSOCIATION.

THE regular stated meeting of the Association was held on Monday evening, November 14th, President W. H. Rhoads, Esq., presiding, and over forty others present. The roll was called; minutes approved; and Messrs. George Rau, William Weightman, Thomas Brooks, Harry Brooks, Henry Humbert, I. G. Chandlee, William M. Ginter (Lewisburg, Pa.), B. Frank Saylor (Lancaster, Pa.), were elected members.

Mr. James Cremer, Chairman of the Committee on the formation of an insurance band in the Association, reported some suggestions from the Committee, and, after considerable discussion on the subject, the matter was referred to the Committee again,

to devise a plan for perfecting such an organization.

Officers were nominated for the coming year (to be elected at the next meeting), which took much time.

A letter was read by the Secretary, from Mr. C. E. Bolles, Danville, Ills., asking for a discussion on how to make "Rembrandts" the best, but there was not time for such a discussion. The Secretary also read a letter from Mr. F. Thorp, President of the Central Ohio Photographic Society, expressing good will and offering to exchange examples of work. A letter from Mr. John Moran was read, apologizing for his failure to read a paper this evening, on account of his contemplated early absence for some time.

J. C. Browne, Esq., President of the Photographic Society of Philadelphia, was introduced, and made a short address. He congratulated the members present on the fact that their Society was a *success*, and cautioned them against the very common mistake in societies of allowing a *few* to do all the work. Each member should take an interest in the Society, and *work* to make it live and useful.

Discussions were had on changing the place and time of meeting, but resulted in no change. A defective negative was shown by Mr. Wilson; Mr. Marcy enlarged it with his sciopticon on the screen. The negative was full of crapy lines in all directions. Considerable discussion was had as to the cause, some declaring it was dirty or too thick a preliminary coating of albumen; others the cotton; others dirty developer; others too much water in the collodion, bad varnish, etc.

After the discussion was over, Messrs. Marcy and Browne exhibited some remarkable fine glass transparencies in the sciopticon.

Mr. W. L. Shoemaker was appointed to read a paper at the next session.

PHOTOGRAPHIC SOCIETY OF PHILADELPHIA.

THE regular monthly meeting was held on Wednesday evening, November 2d, 1870.

The President, Mr. Frederic Graff, in the chair.

The minutes of the last meeting and the reports of the Treasurer and Room Committee were read and accepted.

The following gentlemen were unanimously elected officers for the ensuing year:

President, Mr. John C. Browne.

Vice-Presidents, Mr. Hugh Davids and Mr. John Moran.

Recording Secretary, Mr. E. Wallace, Jr.

Corresponding Secretary, Mr. F. T. Fassitt.

Treasurer, Mr. S. F. Corlies.

The President appointed Messrs. Fassitt, Tilghman, and Pepper, Room Committee; and Messrs. Davids, Wallace, and Sergeant, Committee for revising the minutes.

Mr. Moran exhibited a new form of septum for stereoscopic cameras, which completely prevents any false flare or glare of light from the lenses. This is effected by roughening or, rather, *corrugating* the surface of the septum.

Mr. Moran also showed a picture made without a lens, a piece of cardboard pierced with a small hole being used instead. He found that the focus of this arrangement was about twelve inches; but the picture was not sharp, and by no alteration of the focus could he obtain good definition. The exposure was long, and should have been doubled to obtain a fully exposed plate.

Mr. Graff suggested that the want of sharpness might arise from reflection from the rough edges of the cardboard around the hole, and advised that a carefully countersunk hole in a plate of blackened metal be used.

Mr. Moran also showed some negatives made with Dallmeyer and Zentmayer lenses, being a continuation of some experiments made with landscape lenses in general, the results of said experiments having been shown at the last meeting, and he had no reason to alter his opinion then formed on their relative merits.

The President showed a novel apparatus for washing plates in the field. It consists simply of an ordinary bulb syringe of about half a pint capacity.

A unanimous vote of thanks was passed to Mr. Bates for a handsome donation of twenty-eight stereos from tannin plates.

After adjournment, a half-hour was pleas-

antly spent in exhibiting transparencies in the Marcy sciopticon.

ELLERSLIE WALLACE, JR.,
Recording Secretary.

GERMAN PHOTOGRAPHIC SOCIETY, NEW YORK.

GENERAL monthly meeting, November 3d, 1870. Vice-President, Otto Lewin, in the chair.

After reading and approving of minutes of the last meeting, the chairman rose and welcomed the members back after the rather prolonged summer vacation, and hoped that we would have well-attended and interesting meetings through the winter.

Mr. Schöne called the attention of the meeting to the assertion of Mr. A. De Constant, Lausanne, Switzerland (*Photog. Archiv*, July, 1870), that by covering the inside of the camera-box with white paper, he shortened the exposure and got softer shadows. Mr. Schöne said, he had experimented in this direction, and reports, that by covering the inside, either partly or the whole, or not at all, he found not the slightest difference either in time of exposure or softness of shadows in the negative. This settles at the same time the notion, that the camera-box must of necessity be black inside. In experimenting, as stated above, Mr. S. made a valuable hit, however, by which he attained precisely the results Mr. De Constant claimed to have got. It consists in covering not the inside of the box, but the floor of the studio, between the camera and sitter, with white paper or muslin. This expedient had such a decided effect, that Mr. Kurtz ordered at once a white linen cover for his floor, and is now using this new style of reflector with great success, where short exposure is desirable.

The chairman said he had been greatly troubled through the summer with irregular transparent lines on the negatives, not unlike double lightning forks. They appeared with all kinds of collodion, with old or new silver bath, disappeared suddenly but only to just as suddenly greet his despairing vision again. The debate on this subject elicited the facts from members similarly

troubled, that those lines always appear in the thinnest part of the collodion, no matter which way you immerse your plate, and they very rarely are seen in a thick collodion. Mr. Fritz concluded therefrom, that the cause of it had to be sought in uneven, irregular, too quick drying of parts of the film. The chairman contended that the collodion was over iodized for the strength of the bath, and recommended addition of plain collodion. The undersigned concurred in this view of the trouble. The whole subject was finally laid over for future observations and reports.

Mr. Schöne exhibited two unvarnished negatives, whose film, after drying by heat, had cracked all over, and asked for the reason of it. The undersigned explained, that most likely in its manufacture the cotton had been left too long in the acid and got rotten. He advised to let the negatives dry by themselves without heat, and to mix the collodion with a lot made from different cotton.

EDWARD BOETTCHER,
Secretary, p. t.

THE FAIR PREMIUMS.

As we gave an account in our last number of the photographic displays made at the Fairs at New York, St. Louis, and Cincinnati, we must not fail to state the awards that were made, as follows.

AT NEW YORK.

William Kurtz, for the best crayon drawings, first premium. For the best plain photograph, for the best photograph finished in India ink, for the best photograph on porcelain, first premium.

J. Gurney & Son, for the best photographs finished in oil, first premium. For plain photographs, photographs finished in India ink, photographs finished in pastel, second premium. For photographs finished in crayon, honorable mention.

Henry Merz, for plain photographs, honorable mention.

Samuel A. Thomas, for photographs on porcelain, second premium. For plain photographs, honorable mention.

W. R. Howell, for the best photographs finished in crayon, first premium. For photographs finished in India ink, honorable mention.

John O'Neil, for photographs, honorable mention.

Rockwood & Co., for the best photograph finished in pastel, for the best large photographic views, first premium. For photographs finished in crayon, for photographs finished in oil, for a medallion portrait, second premium.

Charles Bierstadt, for stereoscopic views, first premium.

Richard Horton, for outdoor photographs, second premium.

John Löffler, for photographs, honorable mention.

E. & H. T. Anthony & Co., for photographic requisites, first premium. For stereoscopic views, second premium.

P. F. Weil, for stereoscopic views, second premium.

Scovill Manufacturing Co., for the best photographic apparatus (Am. Opt. Co.'s), first premium. For the best photographic materials, first premium.

Otto Lohr, for stereoscopic camera-box ("Success cameras"), honorable mention. For photographic dark-tent, honorable mention.

Ernst Kruger, for photographic headrest, honorable mention.

AT CINCINNATI.

The judges at Cincinnati reported that the general excellence in the display made it difficult to render awards, and desired to express their belief that the collection there could not be excelled by any artists elsewhere in this country, if in Europe.

Three large silver medals were awarded, viz.: 1. Leon Van Loo; 2. J. Landy; 3. W. S. Porter. Honorable mention was made of the work of Messrs. Vincent Bros., and the landscapes of Mr. Charles Waldack.

St. Louis not heard from at time of going to press.

At Richmond, Va., Mr. D. H. Anderson was awarded a medal for the best photographs of "exquisite finish and truth," and Messrs. Powell & Campbell received "special notice" of their plain photographs.

At Memphis, Tennessee, Messrs. Moyston & Brother received the following: Diploma for plain photographs; ditto for oil colored work; ditto and \$3 for a photograph of a dog; ditto and \$3 for a photograph of a goat; ditto and \$15 for best display of photographs of animals; ditto and \$5 for photograph of a building; ditto

and \$15 for display of photographs of buildings; ditto and \$15 for the best display of photographs. They seem to have swept things generally, and the Cleveland Exhibition, no doubt, paid Mr. Moyston for visiting it.

Mr. J. S. Armstrong, of Memphis, received a diploma and \$5 for the best photograph of a machine.

At Reading, Pa., Messrs. C. A. Saylor, and Leaman & Lee, received very flattering premiums for their work.

At Pittsburg, Pa., Mr. W. H. Whitehead was the recipient of the highest award—a medal—for his excellent work.

Mr. W. H. Brown, Red Wing, Minnesota, received the first premium for plain work. No doubt there are many others of our subscribers who have been distinguished. If so, we will be glad to note their successes.

Moulton's Solar Printing-Frame.

WE have received from Mr. L. V. Moulton, Muskegon, Michigan, one of his "Solar Printing-frames," which is a combined silvering apparatus, stretcher, and toning dish. It is merely a double framework, the connecting edges of which are corrugated or notched to fit each other tightly. The frame is opened, the paper laid on, frame closed, and thus a dish is formed. The sides being shellaced, the sheet may be silvered, developed, or toned, as it is stretched on the frame, and is equally handy for canvas or paper. Where parties do not do much large work, this contrivance saves the expense of large dishes. Solar prints may be made on the paper while stretched in the frame and developed without handling. Its further advantages are set forth, with a cut of the apparatus, in our advertising department, to which please refer.

MISPLACED CONFIDENCE.

EDITOR PHILADA. PHOTOGRAPHER:

Permit me to call attention to a serious evil, which has lately crept into prominence, not only to the detriment and loss of many victims, but also to real meritorious inventions, etc.

I allude to the fact that of our prominent and so-called leading photographers recommending over their signatures any and everything, certainly many things which to my knowledge have no practical value, or are entirely worthless.

I have always made it a *principle* never to recommend anything that I had not fully tested and found worthy of it; for, how do I know but some poor fellow—confidingly misplacing confidence, either in what he conceives my ability or integrity—gives what he can scarcely afford for a fraud, perpetrated, perhaps, by the use of my name only?

I will frankly admit that the (to my recollection) only process purchased by our firm for the past fourteen years was made upon the written indorsements of our most valued and esteemed contemporaries, and was found—well, I'll be mild—worse than useless. We would not have purchased had we not been shown the letters of parties in whom we placed the highest confidence, and in the hurry of business, not being able to test it we relied upon them, were “taken in, and done for.”

I am aware that most of these so-called recommendations are given out of pure good nature and an inability to refuse, but if they would only give the indorsement of a nostrum the reflection they would a friend's I O U, there would be less of them dishonored.

Yours, truly,

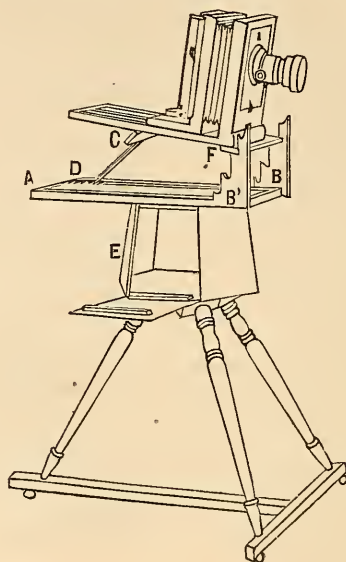
DANIEL BENDANN.

BALTIMORE, November 15th, 1870.

THE SENSIBLE CAMERA-STAND.

ABOVE we give a cut of a new camera-stand, lately patented by an artist of many years' experience. We describe it in his own words: “It is *the* stand. It explains itself. The pieces F and C are screwed fast to the bottom of *any size* camera-box. The piece F works in the notches in the uprights, B B'. The piece C is on hinges, the lower end playing in the notches, D. It entirely does away with the vexatious old screw. The motions of the camera are *perfect* in every particular. It holds the camera *solid*. There is a copying attach-

ment, detachable in front, arranged to move the picture *while the head* is under the cloth. There is a door at E for diaphragms, tubes,



etc. They will be as much cheaper, as they will be *better* and more *satisfactory* than any other stand.”

The inventor is Mr. A. R. Criehtfield, Lincoln, Illinois, and further particulars concerning it may be found in his advertisement.

THIRD ANNUAL EXHIBITION

OF THE

National Photographic Association of the United States.

THE Third Annual Exhibition of the National Photographic Association of the United States will be held in Horticultural Hall, Philadelphia, Pa., beginning the first Tuesday in June, A. D. 1871.

This early notice is given, to invite exhibitors from foreign countries to bear the matter in mind, and consign their parcels in good time. Ample preparation will be made to accommodate such contributions, and to care for them while here, as well as to return them when they are not to be sold for the owner. Foreign pictures will be admitted free of duties, and it is hoped to

secure such arrangements as will bring very little expense for freight, if any, upon the exhibitor. Full particulars will be communicated by circular to all intending exhibitors, who will kindly address the Permanent Secretary for the same. Please also see future notices.

Regulations for American exhibitors will be given early in the new year.

EDWARD L. WILSON.

Permanent Secretary, Philada., Pa.

W. H. RHOADS,

Local Secretary.

THE PRIZE PRINTS.

WE are now prepared to furnish those who desire them, with examples from the negatives offered in competition for our gold medals. The set embraces some admirable things, and to make their study more instructive, we have carefully prepared a criticism on each picture, which is printed in pamphlet form, and a copy of it, with the names of those who made the negatives, will be furnished to all who purchase prints. We believe the study of the two will do any one good. Our object in this is to get those who need instruction to study the work of others, and in this way we furnish them the work from all over the country, *good* and *bad*. Oftentimes as much may be learned from a *bad* picture as from a good one. Among these prize prints you will find both.

Following our editorials we append a copy of this pamphlet (merely taking out the names), which will give the reader an idea of the pictures. You can be supplied in sets or have selections, just as you please. If you want pictures for displaying your gallery, some of these make admirable specimens. Read the "descriptive catalogue" following the editorial.

THE CLEVELAND EXHIBITION AND THE GOOD IT DID.

No one will attempt to deny, that the contact of kindred minds and co-workers in the same line or profession, is sure to produce good results. That fact has long since been established, and the advantages of such

intercourse proven, by the numberless societies in existence for the advancement of agriculture, medicine, the sciences, and all the industries of the country. Men have learned that intercourse with each other is the surest way to advancement. They can learn from the experience of others, and they can have the pleasure of communicating to others what they know. Not only this, but the Annual Exhibitions that are held by these societies are also doing an immense deal of good. Where would agriculture, and horticulture, and mechanics be, were it not for the exhibitions that have been held in their behalf? And now comes Photography, young, energetic, with herculean power and ability, to join the list, and it will soon attract as many visitors, and as much attention to its exhibitions, as any of its kindred.

The Exhibition at Cleveland was favored by attention from the public such as the most sanguine hardly dared to expect for it. The number of photographers who flocked there from twenty-four states of the Union was also wonderful, and promises much for the future of our beautiful art. Whether all the effort put forth to maintain that exhibition will be compensated for or not, we do not question. *It has already been compensated for.* The public were pleased, and their minds enlightened respecting photography and its capabilities, and nearly five hundred photographers left Cleveland with awakened minds, enlarged ideas, full of new purposes, and cheered and strengthened in their purposes to do better work. The country will *feel* it too, and a better, brighter day is coming for us all. Only let us strive to keep the thing up, and make our next exhibition prove our earnestness. Think over it continually and *begin now*, if you have not already begun, to prepare for the Exhibition of 1871, and to be there in person.

In proof of what we say, we make a few extracts, at random, from the many similar letters we have received from those who were fortunate enough to have been at the Cleveland Exhibition.

"I feel well paid for the time and money spent, and shall try to be with you in 1871.

I think the wonderful 'babe' will live and do honor to its progenitors.

"G. H. SHERMAN,
"Elgin, Illinois."

"We were doubly repaid for going to Cleveland. We were both there and enjoyed it hugely.

"TRIPP & SCHELLHOUSE,
"Coldwater, Michigan."

"I had the pleasure and the good fortune to be there, and I have already been much benefited. I gave our papers a full account, which they published, and I hope all who can will do the same.

"J. PERRY ELLIOTT,
"Indianapolis, Indiana."

"If the Exhibition has stimulated all who were there to strive as hard to make better work as it has me, I am sure a great work has been commenced and is going on. Those who were not there missed a treat, and lessons that they cannot have a chance to enjoy for a whole year again.

"E. R. CURTIS,
"Madison, Wis."

"I feel several inches taller, and moreover that I have a reputation to maintain, that should call forth every energy.

"W. H. JACKSON,
"Omaha, Nebraska."

"I send you some cards indicating progress. Robinson's Pictorial Effect and the Cleveland Convention had something to do with it. I now hurrah for Philadelphia next June.

"E. M. VAN AKEN,
"Lowville, New York."

"I became acquainted with many of the first photographers of the country, and if my work is not improved a hundred fold, on my return, it will be my fault, and not that of the Convention. I would recommend that all photographers who wish to elevate their work to attend next year and join the National Photographic Association.

"A. M. L."

"I can now take a negative in one-third less time than I have done for six years

before I visited the Exhibition, and it is the cause.

"C. J. BILLINGHURST,
"McArthur, Ohio."

"I think the Relief Fund is very much needed. It will have my support and also a donation from me in due time.

"BENJAMIN FRENCH,
"Boston, Mass."

"Next year I shall arrange to have all of my employés to visit the Exhibition. They *must see it*.

"A. BOGARDUS,
"New York."

"I was prevented from being there, but I have read the proceedings in the *Photographer*, with the greatest interest, and envied those who were there. The good feeling that prevailed was cheering, and the whole affair enough to interest any photographer.

"E. F. LUMMIS,
"Nichols, New York."

"We send you to-day some few pictures. We feel that the Cleveland Convention has been of the greatest possible benefit to us. The pictures we send you are surely an evidence of this, and we are unwilling to admit that any have made greater advancement, than we have since we were at that great Exhibition. We feel as if we ought to offer an illustration for our Journal after awhile.

"YOUNG & ROGERS,
"Washington, Pa."

"The Association will receive my best efforts to advance the art and the interest of every member. We should now organize a Photographers' Mutual Insurance Company, in order that we may obtain insurance at a cheaper rate. I hope this idea will be agitated.

"J. C. ELROD,
"Louisville, Kentucky."

These give an idea of the earnestness of those who were there.

One of the most pleasing incidents of the whole affair occurred at its very close. The Exhibition was to close Saturday at 10 p.m. Just as the clock pointed to that hour, the band struck up "Home, Sweet Home." President Bogardus was standing near the centre of the Rink, and as if by one com-

mon impulse a large number of photographers flocked around him, and joined him in singing that grand song accompanied by the music. This performance was *encored*, and then the lights grew dim, and the great crowd departed. The Second Annual Exhibition of the National Photographic Association thus closed, a glorious success.

BACKING FOR DRY PLATES.

BY M. CAREY LEA.

SOME time since I mentioned in your columns the result of experiments in backing dry plates. Since then I have made a great number of further experiments upon the matter, on plates used for making negatives, and, in doing so, have noticed a condition necessary to success which has not been before pointed out.

It is, of course, necessary that the backing should be in actual contact with the glass—optical contact. If the slightest separation takes place, admitting the thinnest film of air, or even supposing it possible that a vacuum were left between the backing, would be ineffectual. Now it has become evident to me that the efficacy of the backing is *very much influenced by the amount of drying that a plate receives*. For example, if a plate be backed at the same time that it is made, and if the back and front be let to dry together over sulphuric acid, both back and front will be in excellent condition at the end of thirty-six hours. But if the drying be continued for a week, that is, if having no occasion to use the plate, it is simply left in the box for a week, the backing may no longer be capable of preventing blurring.

My object at present is to explain why this is, and how this injurious effect of continued drying may be avoided.

First, as to appearance. If the backing has proved defective in places, this condition can generally be detected by the eye. If we look at the film side by reflected light in the dark-room, it should present a uniform dark look, except, of course, at the edges, to which the backing does not quite reach. If instead of this uniform dark look, there are spots a little lighter and clouded, we may be sure that the coat has, in those

places, separated itself from the glass. The coat may look perfectly firm, solid when examined from behind, and show not the least tendency to flake off, and yet if the film exhibit this clouded appearance, there will be a tendency to blurring when the plate is exposed and developed.

The best way of avoiding this trouble is to increase the dose of sugar. A convenient method of operating is as follows:

Take about half a drachm of aniline brown, and grind it in a porcelain cup with a couple of ounces of hot water. Stir in four ounces of finely powdered white sugar, and when it is pretty well dissolved, add three ounces of finely powdered gum arabic of good quality. Use just enough water in addition to the first quantity to get as thick a paste as can be well spread over the glass. If the color is not an extremely deep brown-red, even when put on in a thin coat, add more aniline brown. Finally, mix in about twenty drops of carbolic acid. By this last addition, and by using a porcelain cup with well-fitting cover to prevent drying, the mixture will keep in good order for a long time, thus avoiding the trouble of a fresh preparation for each set of plates.

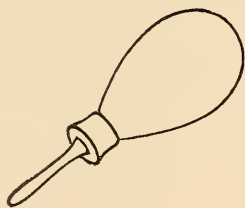
Although aniline brown is excellent in respect of its protection, and although (which is very desirable) a little of it introduced by accident into the developing bath is not hurtful to the development, yet it is objectionable in consequence of staining the hands. I shall later try to find and substitute some other color that is right in all respects. But the matter to which these present remarks are directed, the partial separation of certain sorts of backing by continued drying, is independent of the color used, and holds for mixtures of gum and sugar with Spanish brown, or other coloring matter that may be employed.

THE BULB SYRINGE APPLIED TO PHOTOGRAPHY.

BY JOHN C. BROWNE.

PHOTOGRAPHY in the field, by the use of wet plates, is subject to many inconveniences, one of the greatest being the difficulty of washing the plate thoroughly in the dark-

tent after development, especially if the supply of water is limited. This more particularly applies to tents of a tripod form, where all of the manipulation is conducted on the ground. Until recently I used a tin-cup or pint measure for this purpose, filling it from a bucket or stream of water, if close by; but often at a critical moment the cup would be upset and the plate spoiled before the action of the iron could be checked. Some months ago I noticed a plan of washing adopted by Mr. Jesse A. Graves, of the Delaware Water Gap, which has advantages over any plan that I have seen used for outdoor work. The apparatus is a bulb syringe. *See cut.* Squeeze the rubber bulb with the



hand, so that all the air is forced out, then place it under water; it will sink at once by its own weight, and in a few minutes will be filled and ready for washing the plate. The water cannot run out unless the bulb be pressed, so that it may be tossed into the tent and lay in any position without spilling. When it is desirable to wash the plate, squeeze the bulb, and a stream of water will be thrown over every part of it, without wasting one half of the water, as is the case sometimes when pouring from a tin-cup. Should the surface of the water from which the supply is taken be covered with floating leaves, sticks, etc., the bulb syringe having a small opening and being below the surface of the water, sucks its supply free from dirt and cleanses the tender collodion film much better than when the water has been dipped from the top. You can lay it down anywhere without fear of breaking, or carry it in the pocket without spilling. A syringe of one pint capacity will wash a $6\frac{1}{2} \times 8\frac{1}{2}$ plate more thoroughly than a quart of water poured over it from a tin-cup, and at a great saving of time.

OUR PICTURE.

Our picture this month is another example, on a more extended scale, of composition photography; and an example of a class of work which is perfectly legitimate in photography, and to which in the future our best artists must reach.

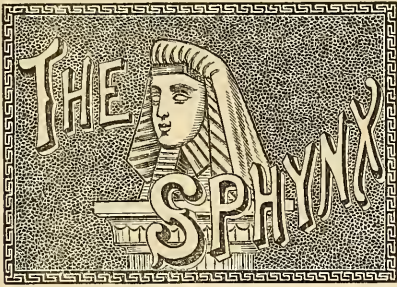
The subject is the "Skating Carnival," which was given in Montreal last winter, during the visit of Prince Arthur, who may be seen in his fur cap, face front, on the left of the picture. It is the work of Mr. Wm. Notman, in Montreal, and as an example of this class, is admirable indeed. The rules of composition are preserved throughout, and the photography is excellent.

Such pictures are made in the following manner: The portraits are taken singly or in groups, according to a plan previously arranged to suit the composition. They are then all pasted on one large sheet with a retouched background. The accessories are then painted in and the whole may then be copied to any size.

This is no easy performance, yet those acquainted with the rules of composition and grouping may attempt it and soon succeed.

In this the harmony, the ease and naturalness of all the figures, together with the variety, the correct perspective, the perfect light and shade, and admirable definition, make it the most charming thing of the kind we have seen. Many nice studies for positions may be taken from this picture. It is full of matter for study, which fact we hope will be taken advantage of.

PHOTOGRAPHS OF THE ANCIENT ARCHITECTURE OF SOUTHERN INDIA.—We have received a number of these wonderful photographs from Capt. Lyon, in Geneva, and they are truly more interesting than any collection we have examined for a long time. They are about 11×14 in size, excellent in every way, and part of a series of *five hundred and twenty-six*. While we wonder at the curious architecture of that curious people of India, we also wonder at the zeal and labor and skill of the talented photographer, who brings right at our door such exquisite photographs of places and things so far away, together with a lucid description of them all. Marion & Co., London, are the publishers, and doubtless are having an immense sale for them.



Contributors to Sphynx will please write on one side of the paper only.

Answers.

PINHOLES can always be traced to one of the following four causes, viz.: 1st. Excess of iodide in the bath. 2d. Unsettled collodion. 3d. Floating particles of dirt, dust, etc., in the bath. 4th. Dust in plate-carrier or camera-box.

Pinholes from excess of iodide, or dust in the bath, and from dust in the plate-carrier and camera-box, are all produced in the same way, namely, by attaching to the film and obstructing the light during exposure of the plate, and being washed away in the after-process, show themselves as minute transparent spots. When occurring from unsettled collodion, they may be known by not appearing until after fixation, the suspended particles of bromo-iodide being held fast by the collodion film. Pinholes from excess of iodide may be known by being smaller and more uniformly distributed over the plate than any other kind, and when they arise from this cause alone, the remedy is to strengthen the bath, or keep it in a warmer place. This sort rarely appears except in cold weather. When they occur from a combination of dust or dirt, and excess of iodide, filtering must also be resorted to. Boiling down is seldom necessary (in my estimation, at least). When the bath is supersaturated with ether and alcohol, fill up with fresh silver, one-third or fourth its bulk neutralized, and set in the sun.

If pinholes should, in any possible case, arise from a combination of all of the above enumerated causes, my advice to the operator would be to *graduate*, and take up the "*shovel*

and the hoe," and delve in his *native element, Mother Earth.*—M. M. GRISWOLD.

The answers referring to blue frosting are not satisfactory. Frosting put on with oil cannot be taken off easily, and as the most of the galleries do not need it in the winter, the following will be useful: I take Prussian blue, and make a saturated solution of beer and Glauber's salts. Make it just as deep a blue as you please, and put it on warm. It will crystallize on cooling, and in the winter, when I do not need to keep out any sun, I take a sponge, and wet it, and wash the frosting all off in ten minutes. I can put it on just as quickly.—ALKALI.

Answers to November Queries.

1. I. Nitrate of soda *will* gain access to the bath by alternately acidifying with nitric acid, and neutralizing with bi-carb. soda. II. It is detrimental, insomuch that it takes the place of so much nitrate of silver, so that when a test is made with the hydrometer, the true strength of the silver solution cannot be obtained. III. Fusing will not remove the nitrate of soda. The only way is to reduce the solution to a chloride, then to metallic silver, in the usual way.—G. H. FENNEMORE.

2. The cause of the phenomena mentioned has not been satisfactorily explained, I believe. Often lack of union between the bath and developer will cause it.—LIVINGSTONE.

3. Precipitate it as sulphide of silver, with a filtered solution of sulphuret of potassium. When a solution of protosulphate of iron is added, in excess, to the cyanide solution containing silver, the silver is precipitated, together with a very bulky precipitate of cyanide of iron.—J. F. MAGEE.

5. If Zephyr will investigate thoroughly, I think he will find that *reflected light, somewhere*, is the cause of his annoyance. There may be chinks in his box, which he hides with his cloth when working out of doors. The cause can doubtless be found by careful search.—EUROS.

6. Emos can doctor his negatives when afflicted with ridges caused by dampness, in the following manner:

Make a minute hole, in the least objectionable part, to prevent the escape of air; warm the negative and either flow with alcohol, or draw a camel's hair brush saturated in alcohol along the ridge; if the negative is then heated well, the ridges will contract and disappear, care being taken to press down with the nail, or some smooth hard substance, those portions from which the air cannot readily be expelled. Then re-varnish. I have also rectified these ridges by soaking the varnished negative very carefully in water, then washing with alcohol, and afterwards re-varnishing.—HELIOS.

QUERIES.

1. How can I make my dark-room glass green?—EUROS.

2. When there is a white building opposite the side-light, ought the said side-light to be frosted blue?—BOONE.

3. Will Sphynx please give me a good formula for an iodizing solution, for iodizing plain collodion at any time?—HOW—.

4. How can I make good porcelain collodion?—ONE IN A FOG.

5. "Rembrandt's" photography. In the last Journal, Mr. Sphynx, there were two rather startling protests proclaimed. The first is a communication, in which the author remonstrates in classical terms against the use of the name "Rembrandt." But canst thou, even thou, grim and impartial Sphynx, tell *why* the protest? Is it that the name is not classical enough, and we are to be degraded by worshipping "at an ignoble shrine?" Or are we trespassing too much upon the domains "of legitimate art, by filching from it one of its most conspicuous names?"

If the picture referred to is an "imitation of Rembrandt's style," what objection can there be to calling it by his name?

Suppose the name were meaningless, which it is not, or is not understood by our customers; are there not thousands of names in our language the origin of which is not generally understood?

Note the names of the planets in our solar system, and see how many people can be found, who have not studied astronomy, that can tell *why* they are called thus and so. Verily, we might question, oh Sphynx!

whether the author referred to can give us the true signification of his own name. With a very slight change in the orthography, however, it might mean *something*, thus: George, be airy!

In reference to the "dead-whiteness of linen draperies," referred to, and so much lamented, there are few good photographers, probably, who have attempted this style that have not experienced the difficulty of lighting the extremes of black and white, and getting perfect detail in both, on the same subject; and yet most of them, doubtless, can show specimens where this has been accomplished as nearly to perfection as we can expect to attain, and that legitimately, under the skylight, without any dodges.

"How to paint photographs" with brush and pencil is one thing, and how to catch them with sunbeams is another.

The second protest comes to us from that centenary fog-bank, out of which sparkles up flashes of light and wit, like Roman-candles out of a torchlight procession. But the ray of light we have here is "total darkness," and the word "photography" is unfortunately applied. We don't need light any more to make pictures by, it only destroys instead of producing them! What is to become of the night photographing apparatus? Mr. Sphynx, will you pinch yourself, and then give us some light on these knotty questions? Do you believe there *ever were* any such men as Daguerre, Adam Salomon, George Washington, or—Tom Burnham?

R. V.

PRANG'S CHROMO "PORTRAIT OF BEETHOVEN."—Messrs. Prang & Co. have favored us with an admirable chromo, from Schimon's popular painting of the immortal Beethoven, in the Royal Library at Berlin. As a work of art this chromo is a grand success, and a fine study. The play of lights and shades, and delicate half tones upon this face, are skilfully secured and are as pleasant to the artistic eye as are the sublime cadences of the great composer to the ears of those who love his music. We believe it is the first effort of Messrs. Prang & Co., in the line of portraiture, and they have proven themselves equal to the task. It is rich, vigorous, and life-like.

Editor's Table.

THE PHOTOGRAPHER TWICE A MONTH.—Our readers will not fail to read the first article in this number, and also the prospectus of this and of our new Magazine. You can now have a Journal twice a month. Send in your subscriptions and clubs early.

MR. R. A. LEWIS writes us that concave backgrounds were used by him fifteen years ago.

THE first person shot by the French as a spy, was Mr. Hart, an inoffensive photographer.

MR. G. WHARTON SIMPSON says Mr. Albert Moore's solar enlargements are the best he ever saw.

MR. Z. P. McMILLAN, Galesburg, Illinois, had a grand opening of his new rooms November 15th, attended by music, singing, lantern exhibition, &c. Success to his enterprise.

DR. VOGEL writes us that the address of the National Photographic Association to the Berlin Photographic Society was read at the last meeting, and received with much enthusiasm and applause. It was printed in our October number.

MR. A. F. CLOUGH, photographer, Warren, N. H., and Prof. Hitchcock, are now on the summit of Mount Washington, where they expect to winter. Mr. Clough expects to get some novel views there.

NEW BOOKS.—During February or March Dr. Vogel's new work will be ready, and also a third edition of "How to Paint Photographs," by Mr. Ayres, early in the year.

FROM General J. K. Barnes, Surgeon-General U. S. A., we have received two more of Dr. Woodward's very interesting photo-micrographs. One of them represents the Navicula Lyra, taken with the Powell and Lealand's immersion 1-16th, magnified to 1000 diameters. They are wonderfully excellent examples of this important branch of scientific photography.

MR. MARCY'S Sciopticon is now the only magic lantern used by both of the Photographic Societies in Philadelphia, as well as at hundreds of other places. It is a wonderful little apparatus. Any photographer can, by a few public exhibitions, make money enough in his own town to pay for a sciopticon and slides.

TAXING PHOTOGRAPHERS.—Mr. H. B. Hillyer, Austin, Texas, says the Texas legislature have recently imposed the very grievous State special tax of \$50 upon every resident photographer, and \$10 upon itinerants for every town they operate in. This is certainly very oppressive. Mr. Hillyer asks us to collect a table of the taxes photographers have to pay in each State, and we will be glad to publish such a list if some one from each State will kindly give us the facts.

SCRIBNER'S MONTHLY MAGAZINE, conducted by Dr. J. G. Holland. N. Y., Scribner & Co., \$3 a year.

The first number of this magazine, which is before us, gives promise of being something fresh and attractive. Dr. Holland's writings are always fresh. The attraction to photographers in such a magazine as this, aside from the enjoyment derived from reading the tales and travels in it, is the engravings, which are very numerous in this, and always suggest valuable ideas to the teachable photographer.

THE AMATEUR'S MANUAL OF PHOTOGRAPHY.—Carbon printing by single transfer is now practiced to a large extent in England, and it is a mystery to us that it is not taken up in America. The Amateur's Manual, edited by Richard Kingham, Esq., London, sixth edition, has just reached us, containing among other excellent things the simple process of Mr. W. H. Davies, for printing in carbon by single transfer. Several excellent prints accompany the work, which are fully equal to those which any carbon process could produce from the same subjects. We shall publish the process early in the year. It has been given to the public freely by Mr. Davies, a fact which deserves commendation. We shall refer to the matter soon again.

HARDING'S CHAIN-BACK ALBUMS.—A visit to the album manufactory of Mr. W. W. Harding, Philadelphia, gives one a very sensible idea of the immense quantity of albums that are yet sold, notwithstanding the cry that their day is ended.

Great stacks of albums for the carte, cabinet, and tintype pictures, are there in all the stages of manufacture. An album has to pass through twenty-five to thirty pairs of hands before it is finished. The great secret of Mr. Harding's success in this line is owing to the excellence of his

albums, and their superiority over all others on account of the chain-back. This chain-back enables us to open the album wide without breaking it, and no amount of dampness will cause the leaves to part from the cover. Mr. Harding will soon have albums ready for the new size. Our photographic friends who are about purchasing for their holiday sales would do well to try them.

THE AMERICAN CHEMIST.—This is a first class monthly journal, devoted to chemistry. Edited by Dr. Charles T. Chandler and W. H. Chandler, and published by William Baldwin & Co., 434 Broome Street, New York. \$5 a year. Its publication commenced in July last, and the back numbers are before us. It is edited with considerable tact and spirit, and promises to be exceedingly useful. We cannot go wrong in commending the study of chemistry to our readers, and this live magazine will give them an excellent opportunity. The editors have taken photography under their wing, and will, we hope, not fail to do it justice. We have clubbed with the publishers, and will furnish the *American Chemist* and either the *Photographer* or *World* for \$9 a year. See prospectus of *American Chemist* in our advertising department.

RECEIVED from Mr. H. O. Bly, Hanover, N. H., some examples of his portrait work, and some very interesting stereo views. From Mr. E. R. Curtiss, Madison, Wisconsin, some very pretty shadow pictures, which do him credit. From Mr. C. R. Savage, Salt Lake City, some very fine Union Pacific Railroad views, which are wonderful. From Mr. H. L. Bingham, Kalamazoo, Michigan, some exceedingly fine examples of the new size Victoria cards. From Mr. Jesse A. Graves, Delaware Water Gap, Pa., some very excellent stereoscopic views made in that delightfully wild region. Mr. Graves has improved wonderfully in his work. These views are mostly of gushing cascades, and are admirably done. From C. Alfred Garrett, Westchester, Pa., some excellent cartes, skilfully manipulated. From Mr. R. S. Forbes, Eugene City, Oregon, some interesting camp scenes in the Western wilderness. From Mr. W. H. Whitehead, Pittsburg, Pa., some excellent medallion cabinet size pictures, which are excellent examples of photography, the more creditable because Pittsburg is probably the worst place in the country to make photographs. Mr. Whitehead is already preparing work for the Exhibition in Philadelphia next June, and will, no doubt, make a creditable show. He was awarded a medal at the late fair held in his city. From

Mr. J. Landy, Cincinnati, Ohio, we have some of the admirable shadow pictures which created so much admiration at Cleveland, and at the late Exhibition at Cincinnati. Mr. Landy also sends us an interior view of the Exhibition, and four negatives to print from for our magazine, prints from which shall be presented to our readers in good time. Mr. M. N. Crocker, Perry, New York, has occupied some time lately with his new Steinheil lenses, in making stereo views along and about the delightfully romantic Genesee River. Some examples before us show him to possess an artistic eye as well as clean and careful hands. A view of the railroad bridge at Portage is one of the best things of its kind we ever saw. Mr. Crocker also enjoys a fine patronage as a skilful portrait photographer, and deservedly so.

TO MEMBERS OF THE N. P. A.—We have received the following: "I wish you would call the attention of the members of the N. P. A. to the fact, that the receipt of the card portrait of one member by mail, of another, ought to be a sufficient hint to exchange; by so doing it would save a written request being sent with each card, and a mutual saving to the fraternity in postage.

"F. M. SPENCER."

CHANGING BASE.—A number of our progressive photographers, who are making fine work in our smaller cities, write us that they intend moving to larger ones, where they can "do more." Now our counsel to such is, *Don't*. Expenses and competition are vastly greater in large cities, and your care would probably be greatly increased, without a corresponding increase of profits. If you are doing *more* than a living, stay where you are. We can point to several who regret doing the reverse.

ANSWERS TO CORRESPONDENTS.

S.—1. The *whole amount* collected at Cleveland was acknowledged in these pages, but the names were not given for the reason that many who could only afford to give a little, objected.

2. Mr. SHAW has commenced suit against Messrs. Bogardus, Kurtz, Howell, E. & H. T. Anthony & Co., and several others, in New York; and the suits are now pending, but it is doubtful if any one of them comes to trial before next April. Our libel suit is pending.

"RETIRED ARTIST" (NEW YORK), AND OTHERS.—We cannot insert communications coming to us over assumed signatures. We do not care to publish the names, if requested not to, but we *must* always know who is responsible for a communication, or it won't be published.

FORM FOR SUBSCRIBERS.

The readers of the *Photographer* are requested to read our Prospectus for 1871; also that of our new magazine, *Photographic World*, and advertisements of our other publications. Likewise consult our *Premium List*, and by a little effort you can get all your own books free of cost. Use this *Blank* and send your order on it.

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